

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.04.93
Test oil : ISO 4113

Combination No. : 0400866198

Injection pump
Pump designation : PES6A100D320/3RS2763
EP type number : 0410806006

Governor
Governor design. : RSV400...950AOC2238
: -4R
Governor no. : 0420233331

Cust. part No. :

Customer-spec. information
Customer : CDC
Motor : 6 CT 8.3
Power KW : 145.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0
x inside diameter : 2.0

A01

x length mm : 600

REMARKS

Start-of-delivery mark at 10° cam rotation angle after start of delivery, cylinder 1

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 2.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 12.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 121.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : + 3.5

Spreed
 Tolerance
 cm³/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 6.5

2nd speed rpm : 400

Rack travel in mm : 5.10
 Tolerance mm : + 0.10

Del. quantity
 cm³/1000 strokes : 15.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.5

Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800

Rack travel in mm : 0.50
 Tolerance mm : + 0.20

governor spring
 pre-tension
 click setting x : 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
 Aneroid pressure
 hPa : 900
 Del. quantity
 cm³/1000 strokes : 121.5
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.5
 Spreed

A02

Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 6.5

RATED SPEED

control lever
 position degree : 93.0
 tolerance degree : + 4.0

rack travel mm : 11.10
 Rated speed rpm : 995
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1070
 Tolerance 1/min : + 5

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1150

rack travel mm : 4.00
 Rated speed rpm : 1085

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 400
 rack travel mm : 4.60

Testing:

Rated speed rpm : 400
 rack travel mm : 5.10
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 470
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 900

rack travel mm : 12.15
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.70
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 305
rack travel mm : 11.80
Tolerance mm : ± 0.20

Pressure hPa : 220
rack travel mm : 11.15
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 91.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : ± 0.75
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 13.0

LOW IDLE

A03

Rated speed rpm : 400
rack travel mm : 5.10
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.04.93
Test oil : ISO 4113

Combination No. : 0403476123

Injection pump
Pump designation : PES6MW100/32ORS1227Z
EP type number : 0413406217

Governor
Governor design. : RSV325...1300MWOA350
Governor no. : 0420085200

Cust. part No. : 1249935

Customer-spec. information

Customer : DAF
Motor : NS133L
Power KW : 133.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

A04

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 92.5

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : ± 0.35

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 92.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 102.0
tolerance degree : ± 4.0

rack travel mm : 10.70
Rated speed rpm : 1335
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1425
Tolerance 1/min : ± 15

rack travel mm : 1.00
Tolerance mm : ± 0.70
Rated speed rpm : 1550

rack travel mm : 4.00
Rated speed rpm : 1455

LOW IDLE

control lever
position degree : 70.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 4.50

Testing:

Rated speed rpm : 325
rack travel mm : 4.00
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 485
Tolerance 1/min : ± 35

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 11.75
Tolerance mm : ± 0.05

Rated speed rpm : 1300
rack travel mm : 11.70
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 11.75
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : 290

Rated speed rpm : 600
rack travel mm : 11.25
Tolerance mm : \pm 0.05

Rated speed rpm : 600

Pressure hPa : -
rack travel mm : 9.90
Tolerance mm : \pm 0.10

Pressure hPa : 160
rack travel mm : 10.40
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1300
Del. quantity
cm³/1000 strokes : 91.0
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 63.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.70
Rated speed! rpm : 1335
Tolerance 1/min : \pm 5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.06.93
Test oil : ISO 4113
Combination No. : 0402846055
Injection pump
Pump designation : PE6P110A32ORS8009-1
EP type number : 0412816011
Governor
Governor design. : RQV300...1200PA1043
Governor no. : 0421814024
Cust. part No. : 11030652-P03

Customer-spec. information
Customer : VME
Motor : TD73KCE
Power KW : 186.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2417413078
Inlet press. bar : 2.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750008
Outside diameter : 6.0

A07

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 3.85
Tolerance mm : ± 0.05

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 198.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 4.40
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 24.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1260

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1300

Del. quantity
cm³/1000 strokes : 198.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 50.0
tolerance degree : ± 4.0

control lever
position degree : 116.0
tolerance degree : ± 4.0

rack travel mm : 10.85
Rated speed rpm : 1245
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1345
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 81.0
tolerance degree : ± 4.0

control lever
position degree : 16.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.40
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 6.50

Rated speed rpm : 335

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1300
rack travel mm : 11.85

Tolerance mm : \pm 0.05

Check tolerance : 11.0
cm³/1000S.

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 7.50
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 920
rack travel mm : 3.80
Tolerance mm : \pm 0.20

Pressure hPa : 240
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.85
Rated speed rpm : 1245
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.40
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 7.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.07.93
Test oil : ISO 4113
Combination No. : 0400866190
Injection pump Pump designation : PES6A100D320/3RS2691
EP type number :
Governor Governor design. : RSV400...1250AOC2216
Governor no. : 0420233327
Cust. part No. :

Customer-spec. information
Customer : CDC
Motor : 6 CT 8.3
Power KW : 160.0

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1417413047
Inlet press. bar : 1.5
Test nozzle holder assembly : 1688901017
Opening pressure bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1680750014
Outside diameter : 6.0

A10

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Prestroke mm : 2.85
Tolerance mm : +- 0.05
test only : +- 0.10
Rack travel in mm : 10.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.50
Check tolerance °NW : +- 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250
Rack travel in mm : 12.05
Tolerance mm : +- 0.05
Del. quantity cm3/1000 strokes : 122.0
Tolerance cm3/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : ± 3.5

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 122.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

RATED SPEED

control lever
position degree : 106.0
tolerance degree : ± 4.0

rack travel mm : 11.00
Rated speed rpm : 1295
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1370
Tolerance 1/min : ± 15

rack travel mm : 0.85
Tolerance mm : ± 0.55
Rated speed rpm : 1450

rack travel mm : 4.00
Rated speed rpm : 1375

LOW IDLE

control lever
position degree : 80.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 5.00

Testing:

Rated speed rpm : 400
rack travel mm : 5.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 12.05
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 12.60
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 124.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1295
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : \pm 1.00
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 13.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.06.93
Test oil : ISO 4113

Combination No. : 0400866208

Injection pump
Pump designation : PES6A100D320/3RS2691
EP type number :

Governor
Governor design. : RSV400...1100AOC2190
 : -80R
Governor no. : 0420233319

Cust. part No. :

Customer-spec. information
Customer : CDC
Motor : 6 CT 8.3
Power KW : 156.6

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1688901017

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 2.85
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300

Tolerance : + 0.50

Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

S.o.d. blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.35

Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 123.5

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 3.5

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 6.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 123.5
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.5
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.5

RATED SPEED

control lever
position degree : 90.0
tolerance degree : +- 4.0

rack travel mm : 11.30
Rated speed rpm : 1145
Tolerance 1/min : +- 5

rack travel mm : 4.00

Rated speed rpm : 1200
Tolerance 1/min : +- 15

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 1300

rack travel mm : 4.00
Rated speed rpm : 1210

LOW IDLE

control lever
position degree : 70.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.90

Testing:

Rated speed rpm : 400
rack travel mm : 5.40
Tolerance mm : +- 0.10

rack travel mm : 2.00
Tolerance 1/min : +- 30

Rated speed rpm : 100
CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.35
Tolerance mm : +- 0.05

BREAKAWAY

Rack travel in mm : 11.30
Rated speed rpm : 1145
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00

Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 13.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.05.93
Test oil : ISO 4113

Combination No. : 0402746949

Injection pump
Pump designation : PES6P120A720RS7224
: -2
EP type number : 0412726893

Governor
Governor design. : RQV275...1100PA975
: -3K
Governor no. : 0421815350

Cust. part No. :

Customer-spec. information
Customer : IVECO-FRANCE SA
Motor : 8460.41.406

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 140
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

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Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 218.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 1.90
Tolerance mm : ± 0.10

Rated speed rpm : 1145
guide sleeve
travel mm : 10.40
Tolerance mm : ± 0.10

Rated speed rpm : 750
guide sleeve
travel mm : 6.10
Tolerance mm : ± 0.25

Rated speed rpm : 430
guide sleeve
travel mm : 3.60
Tolerance mm : ± 0.25

Rated speed rpm : 1360
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1140

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 218.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 119.0
tolerance degree : ± 4.0

rack travel mm : 11.70
Rated speed rpm : 1145
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1235
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 69.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 5.20
Tolerance mm : ± 0.10

rack travel mm : 2.00

Rated speed rpm : 100

CRT mm min. : > 6.70

Rated speed rpm : 335

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.75
Tolerance mm : + 0.05

Rated speed rpm : 900
rack travel mm : 12.70
Tolerance mm : + 0.10

Rated speed rpm : 500
rack travel mm : 11.60
Tolerance mm : + 0.10

Rated speed rpm : 700
rack travel mm : 12.10
Tolerance mm : + 0.10

Rated speed rpm : 350
rack travel mm : 11.20
Tolerance mm : + 0.20

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 900
Pressure hPa : 1200
rack travel mm : 12.75
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 900
rack travel mm : 7.50
Tolerance mm : + 0.10

Rated speed rpm : 900

Pressure hPa : 410
rack travel mm : 8.80
Tolerance mm : + 0.20

Pressure hPa : 750
rack travel mm : 11.35
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 243.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 1145
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.06.93
Test oil : ISO 4113

Combination No. : 0401840734

Injection pump
Pump designation : PE12P110A920LS3173
EP type number : 0411810708

Governor
Governor design. : RQV300...1075PA746
Governor no. : 0421813477

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BF12L513
Power KW : 333.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0

A19

x length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 4- 9- 8- 5- 2
: - 11- 10- 3- 6
: - 7- 12

Phasing : 0-15-60-75-120-135
: -180-195-240-255
: -300-315
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 11.40
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 133.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 5.5

Spreed
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1120

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 133.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

RATED SPEED

control lever
position degree : 54.0
tolerance degree : ± 4.0

rack travel mm : 10.40
Rated speed rpm : 1120
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1230
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 19.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.70
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 8.10

Rated speed rpm : 390

TORQUE CONTROL

Rated speed rpm : 1075
rack travel mm : 11.40
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 450
Pressure hPa : 900
rack travel mm : 11.40
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 450
rack travel mm : 10.50
Tolerance mm : ± 0.05

Rated speed rpm : 450

Pressure hPa : 410
rack travel mm : 10.70
Tolerance mm : ± 0.10

Pressure hPa : 460
rack travel mm : 11.20
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -
Rated speed rpm : 450
Del. quantity cm³/1000 strokes : 110.0
Tolerance cm³/1000 strokes : ± 2.0
Check tolerance cm³/1000S. : ± 5.0

BREAKAWAY

Rack travel in mm : 10.40
Rated speed rpm : 1120
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 150.0
Tolerance cm³/1000 strokes : ± 15.0
Check tolerance cm³/1000S. : ± 19.0

LOW IDLE

Del. quantity cm³/1000 strokes : 17.0
Tolerance cm³/1000 strokes : ± 3.0
Check tolerance cm³/1000S. : ± 5.5
Speed Tolerance cm³/1000 strokes : 7.0
Check tolerance cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.06.93
Test oil : ISO 4113

Combination No. : 0401840754

Injection pump
Pump designation : PE12P110A920LS3173
EP type number : 0411810708

Governor
Governor design. : RQV300...1150PA820
Governor no. : 0421813561

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BF12L513C
Power KW : 386.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0
x inside diameter : 3.0

A22

x length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 4- 9- 8- 5- 2
 : - 11- 10- 3- 6
 : - 7- 12

Phasing : 0-15-60-75-120-135
 : -180-195-240-255
 : -300-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.50
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 157.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 5.5

Spreed
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 1190

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 157.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 8.0

RATED SPEED

control lever
position degree : 55.0
tolerance degree : ± 4.0

control lever
position degree : 121.0
tolerance degree : ± 4.0

rack travel mm : 11.50
Rated speed rpm : 1195
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1305
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 85.0
tolerance degree : ± 4.0

control lever
position degree : 19.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.50
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 8.10

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1150
rack travel mm : 12.50
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 450
Pressure hPa : 750
rack travel mm : 12.50
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 450
rack travel mm : 10.70
Tolerance mm : \pm 0.10

Rated speed rpm : 450

Pressure hPa : 340
rack travel mm : 11.15
Tolerance mm : \pm 0.10

Pressure hPa : 430
rack travel mm : 12.05
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 450
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

BREAKAWAY

Rack travel in mm : 11.50
Rated speed rpm : 1195
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 5.5
Speed
Tolerance
cm³/1000 strokes : 7.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.07.93
Test oil : ISO 4113
Combination No. : 0400846614
Injection pump
Pump designation : PES6A95D41ORS2844
EP type number : 0410896893
Governor
Governor design. : RQV300...1400AB1065
 : -31L
Governor no. : 0420212246
Cust. part No. : 024 074 9702

Customer-spec. information
Customer : MB-NFZ
Motor : OM 366
Power KW : 97.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test Lines : 1680750015
Outside diameter : 6.0

A25

x inside diameter : 1.5
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 3.25
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
 : 4
Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1400
Rack travel in mm : 8.75
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 74.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

2nd speed rpm : 300

Rack travel in mm : 5.00
Tolerance mm : ± 0.10

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1450

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 74.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 110.0
tolerance degree : ± 4.0

rack travel mm : 7.75
Rated speed rpm : 1445
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1555
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50

Rated speed rpm : 1670

LOW IDLE

control lever
position degree : 62.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 6.50

Rated speed rpm : 575

TORQUE CONTROL

Rated speed rpm : 500
rack travel mm : 8.80
Tolerance mm : ± 0.15

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 54.5
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 7.75
Rated speed rpm : 1445
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.80
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 83.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : \pm 0.10

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.08.93
Test oil : ISO 4113

Combination No. : 0402076060

Injection pump
Pump designation : PES6P110A720RS534
EP type number : 0412016077

Governor
Governor design. : RSV450...1050P1A572
Governor no. : 0421833428

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE
Motor : 8365.25.533

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

A28

x length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 108.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
2nd speed rpm	: 450
<hr/>	
Rack travel in mm	: 5.00
Tolerance mm	: ± 0.20
Del. quantity	
cm ³ /1000 strokes	: 18.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
<hr/>	
governor spring	
pre-tension	
click setting x	: 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1050
Aneroid pressure	
hPa	: 900
Del. quantity	
cm ³ /1000 strokes	: 108.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0

B01

Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 108.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 9.00
Rated speed rpm	: 1095
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1130
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1300
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1145

LOW IDLE

control lever	
position degree	: 80.0
tolerance degree	: ± 4.0

Setting point w/out bumper spring

Rated speed rpm	: 450
rack travel mm	: 4.50

Testing:

Rated speed rpm	: 450
rack travel mm	: 5.00
Tolerance mm	: ± 0.10

rack travel mm	: 2.00
Rated speed rpm	: 560
Tolerance 1/min	: ± 30

TORQUE CONTROL

Rated speed rpm	: 1050
rack travel mm	: 10.05
Tolerance mm	: ± 0.05

Rated speed rpm : 550
rack travel mm : 10.10
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 10.05
Tolerance mm : \pm 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.30
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 450
rack travel mm : 9.91
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 122.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 104.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 9.00
Rated speed rpm : 1095

B02

Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

LOW IDLE

Rated speed rpm : 450
rack travel mm : 5.00
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.09.93
Test oil : ISO 4113
Combination No. : 0403456121
Injection pump
Pump designation : PES6MW100/321RS1186
EP type number : 0413406168

Governor
Governor design. : RQ250/1200MW84-12
Governor no. : 0420082067

Cust. part No. : 3-7221

Customer-spec. information
Customer : MAN
Motor : D 0826 LUH03
Power KW : 157.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

B03

x length mm : 600

REMARKS

Start-of-delivery mark is at start of delivery of cylinder 1

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 15.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 134.0

Tolerance
 cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : ± 3.0

Spreed
 Tolerance
 cm³/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 15.50
 Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 800
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 134.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

RATED SPEED

control lever
 position degree : 108.0
 tolerance degree : ± 4.0

rack travel mm : 11.50
 Rated speed rpm : 1253
 Tolerance 1/min : ± 8

rack travel mm : 4.00
 Rated speed rpm : 1305
 Tolerance 1/min : ± 15

rack travel mm : 0.75
 Tolerance mm : ± 0.75
 Rated speed rpm : 1400

rack travel mm : 4.00

LOW IDLE

control lever
 position degree : 74.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
 rack travel mm : 5.60
 Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 1000
 rack travel mm : 12.75
 Tolerance mm : ± 0.05

Rated speed rpm : 600
 rack travel mm : 12.85
 Tolerance mm : ± 0.05

Rated speed rpm : 800
 rack travel mm : 12.85
 Tolerance mm : ± 0.05

Rated speed rpm : 1200
 rack travel mm : 12.55
 Tolerance mm : ± 0.05

ANEROID/ALTITUDE
 COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : -
 rack travel mm : 10.05
 Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : 200
 Rated speed rpm : 500
 rack travel mm : 10.35

Tolerance mm : \pm 0.05
 Rated speed rpm : 500
 Pressure hPa : 1000
 rack travel mm : 12.85
 Tolerance mm : \pm 0.05
 Pressure hPa : 500
 rack travel mm : 12.15
 Tolerance mm : \pm 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 600
 Del. quantity
 cm³/1000 strokes : 133.5
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 1000
 Del. quantity
 cm³/1000 strokes : 133.5
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 5.0

Aneroid pressure
 hPa : 1000
 Rated speed rpm : 1200
 Del. quantity
 cm³/1000 strokes : 131.5
 Tolerance
 cm³/1000 strokes : \pm 2.0
 Check tolerance
 cm³/1000S. : \pm 5.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 75.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 3.0

B05

BREAKAWAY

Rack travel in mm : 11.50
 Rated speed rpm : 1253
 Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
 Del. quantity
 cm³/1000 strokes : 80.0
 Tolerance
 cm³/1000 strokes : \pm 10.0
 Check tolerance
 cm³/1000S. : \pm 13.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 28.09.93
Test oil : ISO 4113
Combination No. : 0401876801
Injection pump
Pump designation : PE6P120A320RS3189
EP type number : 0411826759
Governor
Governor design. : RSV250...900P1A421
: -11
Governor no. : 0421833425
Cust. part No. : 866382 P01

Customer-spec. information
Customer : PENTA
Motor : TWD 710P

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : + 0.1
Test nozzle holder
assembly : 1688901019
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Test lines : 1680750075
Outside diameter : 8.0

B06

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0
Prestroke mm : 2.65
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 7.65
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 146.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spread
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800

Rack travel in mm : 0.50
 Tolerance mm : + 0.20

governor spring
 pre-tension
 click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 146.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 51.0
 tolerance degree : + 4.0

control lever
 position degree : 101.0
 tolerance degree : + 4.0

rack travel mm : 6.65
 Rated speed rpm : 925
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 960
 Tolerance 1/min : + 15

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1070

LOW IDLE

control lever
 position degree : 78.0
 tolerance degree : + 4.0

control lever
 position degree : 28.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 250
 rack travel mm : 4.10

Testing:

Rated speed rpm : 250
 rack travel mm : 4.60
 Tolerance mm : + 0.20

rack travel mm : 2.00
 Rated speed rpm : 370
 Tolerance 1/min : + 30

BREAKAWAY

Rack travel in mm : 6.65
 Rated speed rpm : 925
 Tolerance 1/min : + 5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.93
Test oil : ISO 4113

Combination No. : 0402746907

Injection pump
Pump designation : PES6P120A320RS7231
EP type number : 0412726844

Governor
Governor design. : RQV275...1000PA927
: -1
Governor no. : 0421813923

Cust. part No. :

Customer-spec. information

Customer : RVI
Motor : MIDR 06-20-45
Power KW : 249.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 160
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1680750075

Outside diameter : 8.0

x inside diameter : 2.5
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.70
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 14.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.95
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 244.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : -9.00
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 31.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1140

Rack travel in mm : 16.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 244.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 301.0
tolerance degree : + 4.0

rack travel mm : -1.00
Rated speed rpm : 1060
Tolerance 1/min : + 5

rack travel mm : -9.90
Rated speed rpm : 1215
Tolerance 1/min : + 15

rack travel mm : -13.45
Tolerance mm : + 0.55
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 246.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -9.00
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm max. : < -7.80

Rated speed rpm : 370

TORQUE CONTROL

Rated speed rpm : 1000
Tolerance mm : + 0.10

Rated speed rpm : 500
rack travel mm : -6.00

Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -4.70
Tolerance mm : ± 0.30

Rated speed rpm : 500

Pressure hPa : 240
rack travel mm : -3.80
Tolerance mm : ± 0.20

Pressure hPa : 520
rack travel mm : -1.15
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 195
Check
speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 242.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0
Spreed

Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 126.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1060
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -9.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 31.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.93
Test oil : ISO 4113

Combination No. : 0403546018

Injection pump
Pump designation : PE6MW100/320RS1174
EP type number : 0413506106

Governor
Governor design. : RQV325...1500MW100
Governor no. : 0420083166

Cust. part No. :

Customer spec. information
Customer : BAUDOUIN
Motor : 6 F 11 SRE
Power KW : 225.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

B15

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 4- 3- 6- 5-
: 2

Phasing : 0-75-120-195-240
: -315

Tolerance : ± 0.50

Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1500

Rack travel in mm : 11.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 130.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1500
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.0
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 54.0
tolerance degree : +- 4.0

rack travel mm : 10.50
Rated speed rpm : 1545
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1650
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1750

rack travel mm : 4.00

LOW IDLE

control lever
position degree : 20.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 325

B16

rack travel mm : 4.90
Tolerance mm : +- 0.10
Rated speed rpm : 100
CRT mm min. : > 6.50

TORQUE CONTROL

Rated speed rpm : 1500
rack travel mm : 11.55
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 230
Check
speed 1/min : < 250

BREAKAWAY

Rack travel in mm : 10.50
Rated speed rpm : 1545
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : +- 5.0
Check tolerance
cm³/1000S. : +- 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.10.93
Test oil : ISO 4113

Combination No. : 0402646631

Injection pump
Pump designation : PE6P120A720RS7307
EP type number : 0412626905

Governor
Governor design. : RQ300/1100PA1095
Governor no. : 0421801693

Cust. part No. : 615.60.08.0279

Customer spec. information
Customer : SNF
Motor : WD615.48/49

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 180
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.35
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.65
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 229.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 7.20
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 21.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.75
Tolerance mm : + 0.10

Rated speed rpm : 1150
guide sleeve
travel mm : 6.37
Tolerance mm : + 0.10

Rated speed rpm : 1100
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 426

guide sleeve
travel mm : 5.04
Tolerance mm : + 0.10

Rated speed rpm : 500
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 229.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 94.0
tolerance degree : + 4.0

rack travel mm : 11.60
Rated speed rpm : 1145
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1200
Tolerance 1/min : + 15

rack travel mm : 0.70
Tolerance mm : + 0.70

Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 75.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 7.20
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 415
Tolerance 1/min : ± 20

Rated speed rpm : 200
CRT mm min. : > 9.40

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.65
Tolerance mm : ± 0.05

Rated speed rpm : 650
rack travel mm : 12.65
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.65
Tolerance mm : ± 0.05

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 725
rack travel mm : 12.00
Tolerance mm : ± 0.10
Pressure hPa : 450
rack travel mm : 11.00
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 247.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.60
Rated speed rpm : 1145
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.60
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.20
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 21.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.93
Test oil : ISO 4113

Combination No. : 0403456115

Injection pump
Pump designation : PES6MW100/321RS1215
EP type number : 0413406205

Governor
Governor design. : RQ250/1200MW84-7
Governor no. : 0420082055

Cust. part No. : 3-7126

Customer-spec. information
Customer : MAN
Motor : D 0826 LUH 01
Power KW : 199.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

B21

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 15.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 14.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 171.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 600
Rack travel in mm : 20.00
Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1400
Del. quantity
cm³/1000 strokes : 171.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.0

RATED SPEED

control lever
position degree : 99.0
tolerance degree : + 4.0
rack travel mm : 13.20
Rated speed rpm : 1253
Tolerance 1/min : + 8
rack travel mm : 4.00
Rated speed rpm : 1355
Tolerance 1/min : + 15
rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1450

rack travel mm : 4.00

LOW IDLE

control lever
position degree : 75.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 7.00
Tolerance mm : + 0.20
rack travel mm : 2.00
Rated speed rpm : 150
CRT mm min. : > 8.50

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 14.25
Tolerance mm : + 0.05
Rated speed rpm : 600
rack travel mm : 14.25
Tolerance mm : + 0.05
Rated speed rpm : 800
rack travel mm : 14.25
Tolerance mm : + 0.05
Rated speed rpm : 1200
rack travel mm : 14.25
Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1400
rack travel mm : 14.25
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.35
Tolerance mm : + 0.05

Rated speed rpm : 500
 Pressure hPa : 850
 rack travel mm : 13.40
 Tolerance mm : + 0.15

Pressure hPa : 120
 rack travel mm : 9.70
 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1400
 Rated speed rpm : 600
 Del. quantity
 cm³/1000 strokes : 178.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 5.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

Aneroid pressure
 hPa : 1400
 Rated speed rpm : 800
 Del. quantity
 cm³/1000 strokes : 172.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 5.0

Aneroid pressure
 hPa : 1400
 Rated speed rpm : 1200
 Del. quantity
 cm³/1000 strokes : 167.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 5.0

Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 61.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.0

BREAKAWAY

Rack travel in mm : 13.20
 Rated speed rpm : 1253
 Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
 Del. quantity
 cm³/1000 strokes : 70.0
 Tolerance
 cm³/1000 strokes : + 10.0
 Check tolerance
 cm³/1000S. : + 13.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.10.93
Test oil : ISO 4113

Combination No. : 0402646789

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQ300/1050PA1031-10
Governor no. : 0421801679

Cust. part No. : 0240740402

Customer-spec. information

Customer : MB-NFZ
Motor : OM401 LA
Power KW : 213.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

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Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.35
 Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 202.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.70
 Tolerance mm : + 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 2.58
 Tolerance mm : + 0.10

Rated speed rpm : 1103
 guide sleeve
 travel mm : 6.37
 Tolerance mm : + 0.10

Rated speed rpm : 1050
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + 0.10

Rated speed rpm : 405

guide sleeve
 travel mm : 5.10
 Tolerance mm : + 0.10

Rated speed rpm : 480
 guide sleeve
 travel mm : 6.00
 Tolerance mm : + 0.10

Rated speed rpm : 1280
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure
 hPa : 800
 Del. quantity
 cm³/1000 strokes : 202.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 95.0
 tolerance degree : + 4.0

rack travel mm : 11.35
 Rated speed rpm : 1098
 Tolerance 1/min : + 8

rack travel mm : 4.00
 Rated speed rpm : 1180
 Tolerance 1/min : + 15

rack travel mm : 0.75
 Tolerance mm : + 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 76.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : ± 20

Rated speed rpm : 200
CRT mm min. : > 8.00

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 12.35
Tolerance mm : ± 0.05

Rated speed rpm : 550
rack travel mm : 12.35
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 800
rack travel mm : 12.35
Tolerance mm : ± 0.05

MEASUREMENT

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 9.85
Tolerance mm : ± 0.15

Pressure hPa : 200
rack travel mm : 10.70
Tolerance mm : ± 0.10

START CUT-OUT

B26

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 197.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 350
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.35
Rated speed rpm : 1098
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 280.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.70
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.10.93
Test oil : ISO 4113
Combination No. : 0402046852
Injection pump
Pump designation : PES6P100A320LS3323
EP type number : 0412006708
Governor
Governor design. : RQV350...1300PA1087
Governor no. : 0421814064
Cust. part No. : 1821958C91

Customer-spec. information
Customer : NAVISTAR
Motor : DTA-408
Power KW : 112.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1417413058
Inlet press. bar : 2.8
Overflow quantity
min. l/h : 220
Tolerance l/h : +- 10.0
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1680750015

B28

Outside diameter : 6.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 3.00
Tolerance mm : +- 0.05
test only : +- 0.10
Rack travel in mm : 15.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check
tolerance °NW : +- 0.75

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 14.35
Tolerance mm : +- 0.05
Del. quantity
cm³/1000 strokes : 132.0

Tolerance		
cm ³ /1000 strokes	: ±	1.0
<hr/>		
Check tolerance		
cm ³ /1000S.	: ±	3.0
<hr/>		
Spreed		
Tolerance		
cm ³ /1000 strokes	:	8.0
<hr/>		
Check tolerance		
cm ³ /1000S.	:	12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1300
Aneroid pressure		
hPa	:	1200
Del. quantity		
cm ³ /1000 strokes	:	132.0
Tolerance		
cm ³ /1000 strokes	: ±	1.0
Check tolerance		
cm ³ /1000S.	: ±	3.0
Spreed		
Tolerance		
cm ³ /1000 strokes	:	8.0
Check tolerance		
cm ³ /1000S.	:	12.0

RATED SPEED

control lever		
position degree	:	67.0
tolerance degree	: ±	4.0
control lever		
position degree	:	120.0
tolerance degree	: ±	6.0
rack travel mm	:	13.30
Rated speed rpm	:	1390
Tolerance 1/min	: ±	15
rack travel mm	:	4.00
Rated speed rpm	:	1560
Tolerance 1/min	: ±	5
rack travel mm	:	0.50
Tolerance mm	: ±	0.50
Rated speed rpm	:	1650

CO1

LOW IDLE

control lever		
position degree	:	72.0
tolerance degree	: ±	6.0

control lever		
position degree	:	19.0
tolerance degree	: ±	4.0

Testing:

Rated speed rpm	:	350
rack travel mm	:	6.30
Tolerance mm	: ±	0.10

Rated speed rpm	:	275
CRT mm min.	:	> 8.00

Rated speed rpm	:	435
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TORQUE CONTROL

Rated speed rpm	:	1300
rack travel mm	:	14.35
Tolerance mm	: ±	0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm	:	800
Pressure hPa	:	1200
rack travel mm	:	14.35
Tolerance mm	: ±	0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	800
rack travel mm	:	10.00
Tolerance mm	: ±	0.20

Rated speed rpm	:	800
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Pressure hPa	:	660
rack travel mm	:	13.30
Tolerance mm	: ±	0.20

Pressure hPa	:	285
rack travel mm	:	11.15
Tolerance mm	: ±	0.05

START CUT-OUT

Rated speed rpm : < 280
Check
speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 67.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.30
Rated speed rpm : 1390
Tolerance 1/min : ± 15

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 25.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.11.93
Test oil : ISO 4113

Combination No. : 0401876792

Injection pump
Pump designation : PE6P120A32ORS3313
EP type number : 0411826807

Governor
Governor design. : RSV350...1100P8A558
Governor no. : 0421833397

Cust. part No. : 1342533

Customer-spec. information
Customer : SCANIA
Motor : D9

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750008

Outside diameter : 6.0

C03

x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.65
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 144.0
<hr/>	
Tolerance cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed Tolerance cm ³ /1000 strokes	: 8.0
<hr/>	
Check tolerance cm ³ /1000S.	: 12.0
2nd speed rpm	: 350
Rack travel in mm	: 4.90
Tolerance mm	: ± 0.30
Del. quantity cm ³ /1000 strokes	: 18.0
Tolerance cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 6.0
Spreed Tolerance cm ³ /1000 strokes	: 4.0
Check tolerance cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	: - 3
Rated speed rpm	: 800
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
governor spring pre-tension click setting x	: 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure hPa	: -
Del. quantity cm ³ /1000 strokes	: 144.0

CO4

Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spreed Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

RATED SPEED

control lever position degree	: 63.0
tolerance degree	: ± 4.0
control lever position degree	: 113.0
tolerance degree	: ± 4.0
rack travel mm	: 10.60
Rated speed rpm	: 1145
Tolerance 1/min	: ± 5
rack travel mm	: 4.00
Rated speed rpm	: 1235
Tolerance 1/min	: ± 15
rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1350
rack travel mm	: 4.00
Rated speed rpm	: 1245

LOW IDLE

control lever position degree	: 75.0
tolerance degree	: ± 4.0
control lever position degree	: 24.0
tolerance degree	: ± 4.0

Setting point w/out bumper spring

Rated speed rpm	: 350
rack travel mm	: 4.70

Testing:

Rated speed rpm	: 350
rack travel mm	: 4.20
Tolerance mm	: ± 0.10

rack travel mm : 2.00
Rated speed rpm : 535
Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 11.65
Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 210
rack travel mm : 10.70
Tolerance mm : +- 0.15

Pressure hPa : 280
rack travel mm : 11.15
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : +- 4.0
Check tolerance
cm³/1000S. : +- 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 106.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 10.60
Rated speed rpm : 1145
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.30
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : +- 20.0
Check tolerance
cm³/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.90
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.93
Test oil : ISO 4113
Combination No. : 0401876793
Injection pump
Pump designation : PE6P120A32ORS3314
EP type number : 0411826806
Governor
Governor design. : RSV350...1100P1A559
Governor no. : 0421833389
Cust. part No. : 1342534

Customer-spec. information
Customer : SCANIA
Motor : D9

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1417413025
Inlet press. bar : 2.5
Tolerance bar : + 0.1
Test nozzle holde
assembly : 1688901104
Opening pressure
bar : 251.5
Tolerance bar : + 1.5
Test lines : 1680750008
Outside diameter : 6.0
x inside diameter : 2.0

CO6

x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 4.45
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °Nw : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 11.45
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 152.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : ± 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 152.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 40.0
tolerance degree : ± 4.0

control lever
position degree : 90.0
tolerance degree : ± 4.0

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 180
rack travel mm : 10.50
Tolerance mm : ± 0.10

Pressure hPa : 250
rack travel mm : 10.95
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 116.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 90.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.93
Test oil : ISO 4113

Combination No. : 0401876800

Injection pump
Pump designation : PE6P120A320RS3313
EP type number : 0411826807

Governor
Governor design. : RSV350...1050P8A558
: -1
Governor no. : 0421833423

Cust. part No. : 1351267

Customer-spec. information
Customer : SCANIA
Motor : D9

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 160.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 350

Rack travel in mm : 4.90
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 160.0

C09

Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 56.0
tolerance degree : + 4.0

control lever
position degree : 106.0
tolerance degree : + 4.0

rack travel mm : 10.10
Rated speed rpm : 1095
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1170
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : + 4.0

control lever
position degree : 24.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
rack travel mm : 4.70

Testing:

Rated speed rpm : 350
rack travel mm : 4.20
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 535
Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.15
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 180
rack travel mm : 10.50
Tolerance mm : ± 0.15

Pressure hPa : 280
rack travel mm : 11.15
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 106.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.10
Rated speed rpm : 1095
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 100.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 4.90
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.93
Test oil : ISO 4113

Combination No. : 0402646606

Injection pump
Pump designation : PE6P120A72ORS71880
EP type number : 0412626846

Governor
Governor design. : RQV200...950PA725
 : -10
Governor no. : 0421814002

Cust. part No. : 1338073

Customer spec. information
Customer : SCANIA
Motor : DSC 11 32

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with RO80 diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300

Tolerance : ± 0.30

Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.55
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 214.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 250

Rack travel in mm : 4.70
Tolerance mm : +- 0.30

Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1150

Rack travel in mm : 9.50
Tolerance mm : +- 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 214.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0

C12

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 59.0
tolerance degree : +- 4.0

control lever
position degree : 114.0
tolerance degree : +- 4.0

rack travel mm : 11.50
Rated speed rpm : 995
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1105
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 64.0
tolerance degree : +- 4.0

control lever
position degree : 10.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : +- 30

Rated speed rpm : 150

CRT mm min. : > 6.20

TORQUE CONTROL

Rated speed rpm : 950

rack travel mm : 12.55
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 270
rack travel mm : 11.00
Tolerance mm : ± 0.15

Pressure hPa : 440
rack travel mm : 12.05
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 202.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.50
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.40
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 165.0

Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.93
Test oil : ISO 4113
Combination No. : 0402646608
Injection pump
Pump designation : PE6P120A72ORS7188J
EP type number : 0412626877
Governor
Governor design. : RQ200/950PA745-3
Governor no. : 0421801579

Cust. part No. : 1344920

Customer-spec. information
Customer : SCANIA
Motor : DSC 11 71

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 235
Tolerance l/h : ± 20.0

Test nozzle holder
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1680750008

C14

Outside diameter : 6.0
x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.75
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes :	157.0
<hr/>	
Tolerance	
cm ³ /1000 strokes :	+ 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: + 4.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes :	8.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 12.0
<hr/>	
2nd speed rpm	: 250
<hr/>	
Rack travel in mm	: 4.70
Tolerance mm	: + 0.30
Del. quantity	
cm ³ /1000 strokes :	16.0
Tolerance	
cm ³ /1000 strokes :	+ 3.0
Check tolerance	
cm ³ /1000S.	: + 6.0
Spread	
Tolerance	
cm ³ /1000 strokes :	4.0
Check tolerance	
cm ³ /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 600
<hr/>	
Rack travel in mm	: 16.50
Tolerance mm	: + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: -
Del. quantity	
cm ³ /1000 strokes :	157.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S.	: + 4.0
Spread	

Tolerance	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S.	: 12.0

RATED SPEED

control lever	
position degree	: 41.0
tolerance degree	: + 4.0
<hr/>	
control lever	
position degree	: 95.0
tolerance degree	: + 4.0
<hr/>	
rack travel mm	: 9.70
Rated speed rpm	: 995
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1100
Tolerance 1/min	: + 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1250

LOW IDLE

control lever	
position degree	: 62.0
tolerance degree	: + 4.0
<hr/>	
control lever	
position degree	: 7.0
tolerance degree	: + 4.0

Testing:

Rated speed rpm	: 250
rack travel mm	: 4.70
Tolerance mm	: + 0.10
<hr/>	
rack travel mm	: 2.00
Rated speed rpm	: 340
Tolerance 1/min	: + 20
<hr/>	
Rated speed rpm	: 150
<hr/>	
CRT mm min.	: > 6.00

TORQUE CONTROL

Rated speed rpm	: 950
rack travel mm	: 10.75

Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 6.0

BREAKAWAY

Rack travel in mm : 9.70
Rated speed rpm : 995
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.75
Tolerance mm : \pm 0.05
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : \pm 20.0
Check tolerance
cm³/1000S. : \pm 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.11.93
Test oil : ISO 4113

Combination No. : 0402646788

Injection pump
Pump designation : PE6P120A320LS7858
EP type number : 0412626875

Governor
Governor design. : RQ300/1050PA1031-11
Governor no. : 0421801680

Cust. part No. : 0240740302

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.75

Tolerance mm : \pm 0.05

 Del. quantity
 cm³/1000 strokes : 190.0

 Tolerance
 cm³/1000 strokes : \pm 1.0

 Check tolerance
 cm³/1000S. : \pm 4.0

 Spreed
 Tolerance
 cm³/1000 strokes : 5.0

 Check tolerance
 cm³/1000S. : 9.0

 2nd speed rpm : 300

 Rack travel in mm : 5.20
 Tolerance mm : \pm 0.30
 Del. quantity
 cm³/1000 strokes : 19.0
 Tolerance
 cm³/1000 strokes : \pm 3.0
 Check tolerance
 cm³/1000S. : \pm 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 2.59
 Tolerance mm : \pm 0.10

 Rated speed rpm : 1103
 guide sleeve
 travel mm : 6.38
 Tolerance mm : \pm 0.10

 Rated speed rpm : 1050
 guide sleeve
 travel mm : 6.00
 Tolerance mm : \pm 0.10

 Rated speed rpm : 410
 guide sleeve
 travel mm : 5.25
 Tolerance mm : \pm 0.10

Rated speed rpm : 480
 guide sleeve
 travel mm : 6.00
 Tolerance mm : \pm 0.10

 Rated speed rpm : 1280
 guide sleeve
 travel mm : 11.50
 Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure
 hPa : 800
 Del. quantity
 cm³/1000 strokes : 190.0
 Tolerance
 cm³/1000 strokes : \pm 1.0
 Check tolerance
 cm³/1000S. : \pm 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 94.0
 tolerance degree : \pm 4.0

 rack travel mm : 10.75
 Rated speed rpm : 1098
 Tolerance 1/min : \pm 8

 rack travel mm : 4.00
 Rated speed rpm : 1175
 Tolerance 1/min : \pm 15

 rack travel mm : 0.75
 Tolerance mm : \pm 0.75
 Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : ± 20

Rated speed rpm : 200
CRT mm min. : > 7.50

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.75
Tolerance mm : ± 0.05

Rated speed rpm : 550
rack travel mm : 11.75
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 800
rack travel mm : 11.75
Tolerance mm : ± 0.05

MEASUREMENT

Rated speed rpm : 400
Pressure hPa : -
rack travel mm : 9.75
Tolerance mm : ± 0.15

Pressure hPa : 200
rack travel mm : 10.60
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 800
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 184.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 350
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 127.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 10.75
Rated speed rpm : 1098
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 220.0

Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.10.93
Test oil : ISO 4113

Combination No. : 0403476081B

Injection pump
Pump designation : PES6MW100/72ORS1196
: -1
EP type number : 0413406219

Governor
Governor design. : RSV350...1050MWOA338
Governor no. : 0420085138

Cust. part No. :

Customer-spec. information
Customer : LIEBHERR
Motor : D 916 T
Power KW : 150.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413049

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 130.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : ± 0.35

governor spring
pre-tension
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1300
Del. quantity
cm³/1000 strokes : 130.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 92.0
tolerance degree : ± 4.0

rack travel mm : 9.80
Rated speed rpm : 1038
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1065
Tolerance 1/min : ± 15

rack travel mm : 1.00
Tolerance mm : ± 0.70
Rated speed rpm : 1200

rack travel mm : 4.00
Rated speed rpm : 1075

LOW IDLE

control lever
position degree : 67.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
rack travel mm : 4.20

Testing:

Rated speed rpm : 400
rack travel mm : 3.70
Tolerance mm : ± 0.20

rack travel mm : 2.00
Rated speed rpm : 450
Tolerance 1/min : ± 30

Rated speed rpm : 100
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 10.85
Tolerance mm : ± 0.05

Rated speed rpm : 500
rack travel mm : 10.85
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 10.85
Tolerance mm : ± 0.05

Rated speed rpm : 450
rack travel mm : 12.35
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 550
Pressure hPa : 1300
rack travel mm : 10.85
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 550
rack travel mm : 9.65
Tolerance mm : \pm 0.05

Rated speed rpm : 550

Pressure hPa : 385
rack travel mm : 10.00
Tolerance mm : \pm 0.10

Pressure hPa : 480
rack travel mm : 10.60
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1300
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 131.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : 1300
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 131.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 112.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 9.80
Rated speed rpm : 1038
Tolerance 1/min : \pm 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.10.93
Test oil : ISO 4113
Combination No. : 0403476081F
Injection pump Pump designation : PES6MW100/72ORS1196
EP type number : 0413406219
Governor Governor design. : RSV350...1050MW0A338
Governor no. : 0420085138
Cust. part No. :

Customer-spec. information
Customer : LIEBHERR
Motor : D 916 T
Power Kw : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413049
Inlet press. bar : 1.5
Test nozzle holder assembly : 0681343009
Opening pressure bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1680750008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.45
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2- 4
Phasing : 0-60-120-180-240
Tolerance : -300
Check tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1050
Rack travel in mm : 12.45
Tolerance mm : ± 0.05
Del. quantity cm3/1000 strokes : 150.0
Tolerance cm3/1000 strokes : ± 1.0
Check tolerance cm3/1000s. : ± 3.0
Speed

Tolerance
 cm³/1000 strokes : 3.5

Check tolerance
 cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800

Rack travel in mm : 0.65
 Tolerance mm : ± 0.35

governor spring
 pre-tension
 click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
 Aneroid pressure
 hPa : 1300
 Del. quantity
 cm³/1000 strokes : 150.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

RATED SPEED

control lever
 position degree : 104.0
 tolerance degree : ± 4.0

rack travel mm : 11.40
 Rated speed rpm : 1075
 Tolerance 1/min : ± 5

rack travel mm : 4.00
 Rated speed rpm : 1135
 Tolerance 1/min : ± 10

rack travel mm : 1.00
 Tolerance mm : ± 0.70
 Rated speed rpm : 1250

rack travel mm : 4.00
 Rated speed rpm : 1170

LOW IDLE

control lever
 position degree : 76.0
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
 rack travel mm : 8.50

Testing:

Rated speed rpm : 350
 rack travel mm : 5.70
 Tolerance mm : ± 0.20

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1050
 rack travel mm : 12.45
 Tolerance mm : ± 0.05

Rated speed rpm : 500
 rack travel mm : 12.45
 Tolerance mm : ± 0.05

Rated speed rpm : 800
 rack travel mm : 12.45
 Tolerance mm : ± 0.05

Rated speed rpm : 400
 rack travel mm : 13.95
 Tolerance mm : ± 0.05

ANEROID/ALTITUDE
 COMPENSATOR TEST

SETTING

Rated speed rpm : 600
 Pressure hPa : 1300
 rack travel mm : 12.45
 Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 10.05
Tolerance mm : ± 0.05

Rated speed rpm : 600
rack travel mm : 10.80
Tolerance mm : ± 0.10

Pressure hPa : 700
rack travel mm : 12.00
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1300
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 151.5
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : 1300
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 11.40
Rated speed rpm : 1075
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : ± 0.75
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.10.93
Test oil : ISO 4113
Combination No. : 0403476081G
Injection pump Pump designation : PES6MW100/720RS1196
EP type number : 0413406219
Governor Governor design. : RSV350...1050MWOA338
Governor no. : 0420085138
Cust. part No. :

Customer-spec. information
Customer : LIEBHERR
Motor : D 916 TI
Power KW : 170.0

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413049
Inlet press. bar : 1.5
Test nozzle holder assembly : 0681343009
Opening pressure bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1680750008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.45
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 900
Rack travel in mm : 11.75
Tolerance mm : ± 0.05
Del. quantity cm3/1000 strokes : 143.0
Tolerance cm3/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : +- 3.0

 Spreed
 Tolerance
 cm³/1000 strokes : 3.5

 Check tolerance
 cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800

 Rack travel in mm : 0.65
 Tolerance mm : +- 0.35

 governor spring
 pre-tension
 click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
 Aneroid pressure
 hPa : 1300
 Del. quantity
 cm³/1000 strokes : 143.0
 Tolerance
 cm³/1000 strokes : +- 1.0
 Check tolerance
 cm³/1000S. : +- 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

RATED SPEED

control lever
 position degree : 102.0
 tolerance degree : +- 4.0

 rack travel mm : 10.70
 Rated speed rpm : 925
 Tolerance 1/min : +- 5

rack travel mm : 4.00
 Rated speed rpm : 1000
 Tolerance 1/min : +- 10

rack travel mm : 1.00
 Tolerance mm : +- 0.70
 Rated speed rpm : 1100

rack travel mm : 4.00
 Rated speed rpm : 1010

LOW IDLE

control lever
 position degree : 76.0
 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
 rack travel mm : 4.60

Testing:

Rated speed rpm : 400
 rack travel mm : 3.60
 Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 900
 rack travel mm : 11.75
 Tolerance mm : +- 0.05

Rated speed rpm : 500
 rack travel mm : 11.75
 Tolerance mm : +- 0.05

Rated speed rpm : 600
 rack travel mm : 11.75
 Tolerance mm : +- 0.05

Rated speed rpm : 450
 rack travel mm : 13.25
 Tolerance mm : +- 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1300
rack travel mm : 11.75
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 600
rack travel mm : 10.45
Tolerance mm : \pm 0.05

Rated speed rpm : 600

Pressure hPa : 440
rack travel mm : 11.05
Tolerance mm : \pm 0.10

Pressure hPa : 570
rack travel mm : 11.70
Tolerance mm : \pm 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1300
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 141.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : 1300
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 146.5
Tolerance
cm³/1000 strokes : \pm 1.5
Check tolerance
cm³/1000S. : \pm 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 116.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 10.70
Rated speed rpm : 925
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : \pm 5.0
Check tolerance
cm³/1000S. : \pm 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.11.93
Test oil : ISO 4113
Combination No. : 0400864083
Injection pump
Pump designation : PES4A95D410/3RS2789
EP type number : 0410894995
Governor
Governor design. : RSV325...1175A5C2163
 : -6L
Governor no. : 0420232548
Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F4L913
Power KW : 55.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1680750014
Outside diameter : 6.0

D02

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 3.05
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1175
Rack travel in mm : 11.95
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 75.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

2nd speed rpm : 325

Rack travel in mm : 9.30
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 5.5

Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1175
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 75.5
Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 101.0
tolerance degree : + 4.0

rack travel mm : 10.90
Rated speed rpm : 1220
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1260
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1430

rack travel mm : 4.00
Rated speed rpm : 1285

LOW IDLE

control lever
position degree : 69.0
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
rack travel mm : 8.80

Testing:

Rated speed rpm : 325
rack travel mm : 9.30
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 500
Tolerance 1/min : + 30

Rated speed rpm : 100
CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 500
rack travel mm : 12.40
Tolerance mm : + 0.05

Rated speed rpm : 800
rack travel mm : 12.35
Tolerance mm : + 0.05

Rated speed rpm : 950
rack travel mm : 12.10

Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 60.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 70.5
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1220
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : ± 0.75
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 9.30
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 13.0

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.11.93
Test oil : ISO 4113
Combination No. : 0401876346
Injection pump
Pump designation : PE6P110A32ORS497
EP type number : 0411816165
Governor
Governor design. : RSV250...1200P1A374
: -13
Governor no. : 0421833424
Cust. part No. : 866537-P01

Customer-spec. information
Customer : PENTA
Motor : TID 72A

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.05
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 12.85
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 139.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : +- 0.20

governor spring
pre-tension
click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 139.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 68.0
tolerance degree : +- 4.0

control lever
position degree : 118.0
tolerance degree : +- 4.0

rack travel mm : 11.85
Rated speed rpm : 1215
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1280
Tolerance 1/min : +- 15

rack travel mm : 0.85
Tolerance mm : +- 0.55
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 77.0
tolerance degree : +- 4.0

control lever
position degree : 27.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 250
rack travel mm : 5.20

Testing:

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 340
tolerance 1/min : +- 30

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.85
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -

Rated speed rpm : 500
rack travel mm : 9.40
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 910
rack travel mm : 3.10
Tolerance mm : \pm 0.10

Pressure hPa : 310
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 77.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 11.85
Rated speed rpm : 1215
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.11.93
Test oil : ISO 4113
Combination No. : 0401876803
Injection pump
Pump designation : PE6P110A320RS3266
EP type number : 0411816777
Governor
Governor design. : RSV350...1250POA578
Governor no. : 0421833434
Cust. part No. : 866200-MEMO+REF-PPE

Customer-spec. information
Customer : PENTA
Motor : TWD 630ME

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1457413046
Inlet press. bar : 1.5
Tolerance bar : +- 0.1
Test nozzle holder assembly : 1688901101
Opening pressure bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1680750008
Outside diameter : 6.0
x inside diameter : 2.0

D08

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : +- 1.0
Prestroke mm : 2.45
Tolerance mm : +- 0.05
test only : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check tolerance °NW : +- 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 11.75
Tolerance mm : +- 0.05
Del. quantity cm3/1000 strokes : 133.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 3.0

Spreed
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800

Rack travel in mm : 0.50
 Tolerance mm : + 0.20

governor spring
 pre-tension
 click setting x : 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : 1200
 Del. quantity
 cm³/1000 strokes : 133.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 46.0
 tolerance degree : + 4.0

control lever
 position degree : 96.0
 tolerance degree : + 4.0

rack travel mm : 10.75
 Rated speed rpm : 1270
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1305
 Tolerance 1/min : + 15

rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1340

LOW IDLE

control lever
 position degree : 68.0
 tolerance degree : + 4.0

control lever
 position degree : 18.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 350
 rack travel mm : 5.50

Testing:

rack travel mm : 2.00
 Rated speed rpm : 390
 Tolerance 1/min : + 30

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

ANEROID/ALTITUDE
 COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1200
 rack travel mm : 11.75
 Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -

Rated speed rpm : 500
rack travel mm : 9.20
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 785
rack travel mm : 2.10
Tolerance mm : \pm 0.10

Pressure hPa : 240
rack travel mm : 0.20
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 10.75
Rated speed rpm : 1270
Tolerance 1/min : \pm 5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.11.93
Test oil : ISO 4113
Combination No. : 0402616803
Injection pump
Pump designation : PE6P130A300RS7274
EP type number : 0412636824
Governor
Governor design. :
Governor no. :
Cust. part No. : 866146-P01

Customer-spec. information
Customer : PENTA
Motor : TAD1230G(GENSET)

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holde
assembly : 1688901103
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0
x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.05
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 13.25
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 354.0

Tolerance		
cm ³ /1000 strokes	: ±	1.5
<hr/>		
Check tolerance		
cm ³ /1000S.	: ±	5.0
<hr/>		
Spreed		
Tolerance		
cm ³ /1000 strokes	:	7.0
<hr/>		
Check tolerance		
cm ³ /1000S.	:	11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	700
Aneroid pressure		
hPa	:	-
Del. quantity		
cm ³ /1000 strokes	:	354.0
Tolerance		
cm ³ /1000 strokes	: ±	1.5
Check tolerance		
cm ³ /1000S.	: ±	5.0
Spreed		
Tolerance		
cm ³ /1000 strokes	:	7.0
Check tolerance		
cm ³ /1000S.	:	11.0

LOW IDLE

Testing:

Rated speed rpm	:	300
rack travel mm	:	4.40
Tolerance mm	: ±	0.20

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.11.93
Test oil : ISO 4113
Combination No. : 0402036748
Injection pump
Pump designation : PES6P120A320/3RS3297
EP type number : 0412026753
Governor
Governor design. : RQV375...1000PA1022
Governor no. : 0421813981

Cust. part No. :

Customer-spec. information
Customer : SACM
Motor : UD18L6R3D
Power KW : 219.0

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Test nozzle holder assembly : 1688901019
Opening pressure bar : 208.5
Tolerance bar : ± 1.5
Lube oil : 1409918004
Test lines : 1680750075
Outside diameter : 8.0

D13

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1000
Rack travel in mm : 11.95
Tolerance mm : ± 0.05
Del. quantity cm3/1000 strokes : 210.0
Tolerance cm3/1000 strokes : ± 1.0
Check tolerance cm3/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 375

Rack travel in mm : 5.10
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1150

Rack travel in mm : 11.20
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 210.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 121.0
tolerance degree : + 4.0

rack travel mm : 10.90
Rated speed rpm : 1045
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1145
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 72.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 375
rack travel mm : 5.10
Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 6.60

Rated speed rpm : 435

START CUT-OUT

Rated speed rpm : < 295
Check
speed 1/min : < 315

BREAKAWAY

Rack travel in mm : 10.90
Rated speed rpm : 1045
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 165.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 375
rack travel mm : 5.10
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.02.93
Test oil : ISO 4113
Combination No. : 0403446315
Injection pump
Pump designation : PES6MW100/320LS1230
EP type number : 0413406222

Governor
Governor design. : RQ275/950MW130
Governor no. : 0420082071

Cust. part No. :

Customer-spec. information
Customer : RBOS-HU
Motor : D10UTS150
Power KW : 150.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413047

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 3.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Del. quantity
cm3/1000 strokes : 131.0

Tolerance
cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : ± 4.0

Spreed
Tolerance
cm3/1000 strokes : 4.0

Check tolerance
cm3/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 700
Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
Aneroid pressure
hPa : 800
Del. quantity
cm³/1000 strokes : 131.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 94.0
tolerance degree : ± 4.0
rack travel mm : 12.10
Rated speed rpm : 1013
Tolerance 1/min : ± 8
rack travel mm : 4.00
Rated speed rpm : 1085
Tolerance 1/min : ± 15
rack travel mm : 0.55
Tolerance mm : ± 0.45
Rated speed rpm : 1200
rack travel mm : 4.00

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 7.90
Tolerance mm : ± 0.10
rack travel mm : 2.00
Rated speed rpm : 150
CRT mm min. : > 9.50

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 800
rack travel mm : 13.15
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.05
Tolerance mm : ± 0.05

Rated speed rpm : 500
Pressure hPa : 310
rack travel mm : 12.85
Tolerance mm : ± 0.05

Pressure hPa : 150
rack travel mm : 11.85
Tolerance mm : ± 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 96.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 12.10
Rated speed rpm : 1013
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 13.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.93
Test oil : ISO 4113

Combination No. : 0401846964

Injection pump
Pump designation : PE6P110A320RS3302
EP type number : 0411816787

Governor
Governor design. : RG300/1000PA1012-1
Governor no. : 0421801648

Cust. part No. : 1250792

Customer-spec. information
Customer : DAF
Motor : LT 195 L
Power Kw : 195.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0

x Length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.75
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 14.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 850

Rack travel in mm : 14.45
Tolerance mm : ± 0.05

Del. quantity
cm3/1000 strokes : 174.0

Tolerance
cm3/1000 strokes : ± 1.0

Check tolerance
cm3/1000S. : ± 3.5

<hr/>	
Spreed Tolerance	
cm ³ /1000 strokes :	4.0
<hr/>	
Check tolerance	
cm ³ /1000S. :	7.5
2nd speed rpm :	300
Rack travel in mm :	7.70
Tolerance mm :	+ 0.10
Del. quantity	
cm ³ /1000 strokes :	30.0
Tolerance	
cm ³ /1000 strokes :	+ 2.5
Check tolerance	
cm ³ /1000S. :	+ 5.0
Spreed Tolerance	
cm ³ /1000 strokes :	8.0
Check tolerance	
cm ³ /1000S. :	11.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm :	300
guide sleeve	
travel mm :	2.06
Tolerance mm :	+ 0.10
Rated speed rpm :	1060
guide sleeve	
travel mm :	6.35
Tolerance mm :	+ 0.10
Rated speed rpm :	1000
guide sleeve	
travel mm :	6.00
Tolerance mm :	+ 0.10
Rated speed rpm :	363
guide sleeve	
travel mm :	4.56
Tolerance mm :	+ 0.10
Rated speed rpm :	440
guide sleeve	
travel mm :	6.00
Tolerance mm :	+ 0.10
Rated speed rpm :	1210
guide sleeve	
travel mm :	11.50
Tolerance mm :	+ 0.50

D20

GUIDE SLEEVE POSITION

Rated speed rpm :	600
Rack travel in mm :	20.00
Tolerance mm :	+ 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure	
hPa :	-
Del. quantity	
cm ³ /1000 strokes :	174.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S. :	+ 3.5
Spreed Tolerance	
cm ³ /1000 strokes :	4.0
Check tolerance	
cm ³ /1000S. :	7.5

RATED SPEED

tolerance degree :	+ 4.0
rack travel mm :	13.40
Rated speed rpm :	1053
Tolerance 1/min :	+ 8
rack travel mm :	4.00
Rated speed rpm :	1130
Tolerance 1/min :	+ 15
rack travel mm :	0.75
Tolerance mm :	+ 0.75
Rated speed rpm :	1300

LOW IDLE

tolerance degree :	+ 4.0
Testing:	
Rated speed rpm :	300
rack travel mm :	7.70
Tolerance mm :	+ 0.10
rack travel mm :	2.50
Rated speed rpm :	370
Tolerance 1/min :	+ 20
Rated speed rpm :	200

CRT mm min. : > 11.00

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 14.45
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 14.55
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : 530
Rated speed rpm : 600
rack travel mm : 14.05
Tolerance mm : ± 0.05

Rated speed rpm : 600

Pressure hPa : -
rack travel mm : 12.40
Tolerance mm : ± 0.10

Pressure hPa : 380
rack travel mm : 13.10
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1053
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : ± 0.75
Del. quantity
cm³/1000 strokes : 350.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 23.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.70
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 11.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.12.93
Test oil : ISO 4113
Combination No. : 0401846972
Injection pump
Pump designation : PE6P110A32ORS3302Y
EP type number : 0411816790
Governor
Governor design. : RQ300/1000PA1012-1
Governor no. : 0421801648
Cust. part No. : 1253697

Customer-spec. information
Customer : DAF
Motor : LT 160 L
Power KW : 160.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test Lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.75
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 13.00
Tolerance mm : ± 0.50
Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 850
Rack travel in mm : 13.05
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 142.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5
Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

2nd speed rpm : 300

Rack travel in mm : 7.50
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 30.0

Tolerance
cm³/1000 strokes : ± 2.5

Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 11.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.08
Tolerance mm : ± 0.10

Rated speed rpm : 1060
guide sleeve
travel mm : 6.36
Tolerance mm : ± 0.10

Rated speed rpm : 1000
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 372
guide sleeve
travel mm : 5.03
Tolerance mm : ± 0.10

Rated speed rpm : 440
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1210
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 142.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.5

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 99.0
tolerance degree : ± 4.0

rack travel mm : 12.00
Rated speed rpm : 1053
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1120
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 78.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 7.50
Tolerance mm : ± 0.10

rack travel mm : 2.50
Rated speed rpm : 370
Tolerance 1/min : + 20

Rated speed rpm : 200
CRT mm min. : > 11.00

TORQUE CONTROL

Rated speed rpm : 850
rack travel mm : 13.05
Tolerance mm : + 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 13.05
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : 360
Rated speed rpm : 600
rack travel mm : 12.75
Tolerance mm : + 0.05

Rated speed rpm : 600

Pressure hPa : -
rack travel mm : 11.70
Tolerance mm : + 0.10

Pressure hPa : 270
rack travel mm : 12.10
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 109.5
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.5

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1053
Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + 0.75
Del. quantity
cm³/1000 strokes : 350.0
Tolerance
cm³/1000 strokes : + 20.0
Check tolerance
cm³/1000S. : + 23.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 7.50
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : + 2.5
Check tolerance
cm³/1000S. : + 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 11.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.01.94
Test oil : ISO 4113
Combination No. : 0401846849
Injection pump
Pump designation : PE6P120A32ORS3196
EP type number : 0411826763
Governor
Governor design. : RQV200...1100PA729
: -1
Governor no. : 0421813470
Cust. part No. :

Customer-spec. information
Customer : SCANIA
Motor : DS9 D6

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 2.5
Test nozzle holde
assembly : 1688901019
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test Lines : 1680750015
Outside diameter : 6.0
x inside diameter : 3.0

D25

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 5.05
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 10.45
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 134.0
Tolerance
cm³/1000 strokes : ± 1.0

<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
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Check tolerance	
cm ³ /1000S.	: 8.0
2nd speed rpm	: 225
<hr/>	
Rack travel in mm	: 5.00
Tolerance mm	: ± 0.30
Del. quantity	
cm ³ /1000 strokes	: 24.0
Tolerance	
cm ³ /1000 strokes	: ± 2.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 3.0
Check tolerance	
cm ³ /1000S.	: 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1120
<hr/>	
Rack travel in mm	: 16.50
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: -
Del. quantity	
cm ³ /1000 strokes	: 134.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 8.0

RATED SPEED

control lever	
position degree	: 59.0
tolerance degree	: ± 4.0
<hr/>	
control lever	
position degree	: 114.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 9.40
Rated speed rpm	: 1145
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1265
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever	
position degree	: 64.0
tolerance degree	: ± 4.0
<hr/>	
control lever	
position degree	: 9.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 225
rack travel mm	: 5.00
Tolerance mm	: ± 0.10
<hr/>	
rack travel mm	: 2.00
Rated speed rpm	: 330
Tolerance 1/min	: ± 30
<hr/>	
Rated speed rpm	: 100
<hr/>	
CRT mm min.	: > 6.20

TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 10.45
Tolerance mm	: ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 149.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

BREAKAWAY

Rack travel in mm : 9.40
Rated speed rpm : 1145
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 355.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 225
rack travel mm : 5.00
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 26.01.94
Test oil : ISO 4113

Combination No. : 0402630812

Injection pump
Pump designation : PE12P120A120RS7306
EP type number : 0412620839

Governor
Governor design. : RQV325...1500PA930
Governor no. : 0421813804

Cust. part No. : 14 75 061 0X

Customer-spec. information
Customer : BAUDOJIN
Motor : 12 F 120 SRE
Power KW : 618.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1688901019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.40
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1-12- 9- 5- 3
 : - 8- 11- 4- 2
 : - 10- 7- 6

Phasing : 0-45-60-105-120
 : -165-180-225-240
 : -285-300-345
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1500

Rack travel in mm : 12.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 187.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

2nd speed rpm : 325

Rack travel in mm : 7.40
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : ± 3.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 1.14
Tolerance mm : ± 0.10

Rated speed rpm : 1555
guide sleeve
travel mm : 8.60
Tolerance mm : ± 0.10

Rated speed rpm : 899
guide sleeve
travel mm : 3.88

E01

Tolerance mm : ± 0.20

Rated speed rpm : 381
guide sleeve
travel mm : 1.88
Tolerance mm : ± 0.20

Rated speed rpm : 431
guide sleeve
travel mm : 2.32
Tolerance mm : ± 0.20

Rated speed rpm : 1810
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1700

Rack travel in mm : 6.50
Tolerance mm : ± 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1500
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 187.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

RATED SPEED

control lever
position degree : 123.0
tolerance degree : ± 4.0

rack travel mm : 11.70
Rated speed rpm : 1545
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1670
Tolerance 1/min : ± 15

rack travel mm : 0.50

Tolerance mm : \pm 0.50
Rated speed rpm : 1750

LOW IDLE

control lever
position degree : 88.0
tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 7.40
Tolerance mm : \pm 0.10

Rated speed rpm : 200
CRT mm min. : $>$ 8.50
Rated speed rpm : 360

TORQUE CONTROL

Rated speed rpm : 1500
rack travel mm : 12.75
Tolerance mm : \pm 0.05

Rated speed rpm : 1500
rack travel mm : 9.00
Tolerance mm : \pm 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 12.75
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.75
Tolerance mm : \pm 0.10

Rated speed rpm : 500
Pressure hPa : 360
rack travel mm : 11.85
Tolerance mm : \pm 0.10

Pressure hPa : 400

E02

rack travel mm : 12.25
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : $<$ 270
Check
speed 1/min : $<$ 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 1500
Del. quantity
cm³/1000 strokes : 121.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 129.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 1545
Tolerance 1/min : \pm 5

LOW IDLE

Rated speed rpm : 325
rack travel mm : 7.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : \pm 3.0

Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.01.94
Test oil : ISO 4113
Combination No. : 0402646624
Injection pump
Pump designation : PE6P120A320RS7299
EP type number : 0412626885
Governor
Governor design. : RQV275...1000PA1075K
Governor no. : 0421815356
Cust. part No. : 1280155

Customer-spec. information
Customer : DAF
Motor : WS 295 M
Power KW : 295.0

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : + 0.1
Test nozzle holder assembly : 1688901105
Opening pressure bar : 208.5
Tolerance bar : + 1.5
Lube oil : 1409918004
Test lines : 1680750089

E04

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 4.85
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 10.50
Tolerance mm : + 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 980
Rack travel in mm : 14.35
Tolerance mm : + 0.05
Del. quantity cm³/1000 strokes : 279.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : 5.60
Tolerance mm : + 0.20

Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
guide sleeve
travel mm : 2.14
Tolerance mm : + 0.15

Rated speed rpm : 1046
guide sleeve
travel mm : 9.83
Tolerance mm : + 0.20

Rated speed rpm : 689
guide sleeve
travel mm : 6.43
Tolerance mm : + 0.25

Rated speed rpm : 284
guide sleeve
travel mm : 2.27
Tolerance mm : + 0.25

Rated speed rpm : 334
guide sleeve
travel mm : 3.17
Tolerance mm : + 0.25

Rated speed rpm : 390
guide sleeve
travel mm : 3.79
Tolerance mm : + 0.25

Rated speed rpm : 1310
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1135

Rack travel in mm : 13.60
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 279.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 121.0
tolerance degree : + 4.0

rack travel mm : 13.40
Rated speed rpm : 1033
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1160
Tolerance 1/min : + 15

rack travel mm : 0.70
Tolerance mm : + 0.70
Rated speed rpm : 1275

LOW IDLE

control lever
position degree : 77.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 4.80
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 355
Tolerance 1/min : ± 30

Rated speed rpm : 175
CRT mm min. : > 7.80

TORQUE CONTROL

Rated speed rpm : 980
rack travel mm : 14.35
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 13.55
Tolerance mm : ± 0.05

Rated speed rpm : 600
rack travel mm : 12.70
Tolerance mm : ± 0.10

Rated speed rpm : 500
rack travel mm : 12.50
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 980
Pressure hPa : 1500
rack travel mm : 14.35
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : 840
Rated speed rpm : 980
rack travel mm : 13.25
Tolerance mm : ± 0.05

EQ6

Rated speed rpm : 980
Pressure hPa : -
rack travel mm : 9.00
Tolerance mm : ± 0.10

Pressure hPa : 430
rack travel mm : 10.50
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 284.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 172.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 1033
Tolerance 1/min : ± 5

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.60
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 17.0

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.01.94
Test oil : ISO 4113
Combination No. : 0402646786
Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865
Governor
Governor design. : RGV300...1050PA1065
Governor no. : 0421814053
Cust. part No. : 0240747802

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : + 0.1
Overflow quantity
min. l/h : 110
Tolerance l/h : + 10.0
Test nozzle holde
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Lube oil : 1409918004

E08

Test lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 5.25
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 20.50
Tolerance mm : + 0.50
Firing order : 6- 3- 5- 2- 4-
: 1
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 231.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.13
Tolerance mm : ± 0.10

Rated speed rpm : 1108
guide sleeve
travel mm : 9.81
Tolerance mm : ± 0.10

Rated speed rpm : 370
guide sleeve
travel mm : 2.00
Tolerance mm : ± 0.25

Rated speed rpm : 420

guide sleeve
travel mm : 2.49
Tolerance mm : ± 0.25

Rated speed rpm : 750
guide sleeve
travel mm : 4.87
Tolerance mm : ± 0.25

Rated speed rpm : 1310
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1170

Rack travel in mm : 11.70
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 231.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 105.0
tolerance degree : ± 4.0

rack travel mm : 11.70
Rated speed rpm : 1095
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1160
Tolerance 1/min : ± 15

rack travel mm : 0.75

Tolerance mm : ± 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 69.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.10

Rated speed rpm : 200
CRT mm min. : > 7.50
Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.00
Tolerance mm : ± 0.05

Rated speed rpm : 1050
rack travel mm : 13.00
Tolerance mm : ± 0.05

Rated speed rpm : 400
rack travel mm : 12.25
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 700
Pressure hPa : 1000
rack travel mm : 13.00
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : 550
Rated speed rpm : 400
rack travel mm : 12.25
Tolerance mm : ± 0.05

Rated speed rpm : 700
Pressure hPa : -

E10

rack travel mm : 10.35
Tolerance mm : ± 0.15

Pressure hPa : 300
rack travel mm : 11.00
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 228.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 191.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 1095
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.75
Tolerance mm : \pm 0.25
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.01.94
Test oil : ISO 4113

Combination No. : 0402646976

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQ300/1050PA1031
Governor no. : 0421801642

Cust. part No. : 0230740902

Customer spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

E12

Test lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : ± 0.30
Check
tolerance °Nw : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.00
 Tolerance mm : ± 0.05

Del. quantity
 cm³/1000 strokes : 231.0

Tolerance
 cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : ± 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.20
 Tolerance mm : ± 0.30
 Del. quantity
 cm³/1000 strokes : 13.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.82
 Tolerance mm : ± 0.10

Rated speed rpm : 1103
 guide sleeve
 travel mm : 6.70
 Tolerance mm : ± 0.10

Rated speed rpm : 1050
 guide sleeve
 travel mm : 6.35
 Tolerance mm : ± 0.10

Rated speed rpm : 811

guide sleeve
 travel mm : 6.09
 Tolerance mm : ± 0.10

Rated speed rpm : 427
 guide sleeve
 travel mm : 4.96
 Tolerance mm : ± 0.10

Rated speed rpm : 510
 guide sleeve
 travel mm : 6.00
 Tolerance mm : ± 0.10

Rated speed rpm : 1270
 guide sleeve
 travel mm : 11.50
 Tolerance mm : ± 0.50

Rated speed rpm : 873
 guide sleeve
 travel mm : 6.26
 Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600
 Rack travel in mm : 20.00
 Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 231.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 97.0
 tolerance degree : ± 4.0

rack travel mm : 11.70
 Rated speed rpm : 1098

Tolerance 1/min : +- 8
rack travel mm : 4.00
Rated speed rpm : 1180
Tolerance 1/min : +- 15

rack travel mm : 0.75
Tolerance mm : +- 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : +- 0.10

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : +- 20

Rated speed rpm : 200

CRT mm min. : > 7.10

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.00
Tolerance mm : +- 0.05

Rated speed rpm : 1050
rack travel mm : 13.00
Tolerance mm : +- 0.10

Rated speed rpm : 400
rack travel mm : 12.25
Tolerance mm : +- 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 13.00
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : 550
Rated speed rpm : 400
rack travel mm : 12.25
Tolerance mm : +- 0.05

Rated speed rpm : 400

Pressure hPa : -
rack travel mm : 10.35
Tolerance mm : +- 0.15

Pressure hPa : 300
rack travel mm : 11.00
Tolerance mm : +- 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm3/1000 strokes : 228.0
Tolerance
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000S. : +- 5.0

Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm3/1000 strokes : 191.0
Tolerance
cm3/1000 strokes : +- 1.5
Check tolerance
cm3/1000S. : +- 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 132.0
Tolerance
cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 11.70
Rated speed rpm : 1098
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 280.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 19.01.94
Test oil : ISO 4113

Combination No. : 0403456126

Injection pump
Pump designation : PES6MW100/321RS1201
EP type number : 0413406190

Governor
Governor design. : RQV250...1200MW83-4
Governor no. : 0420083307

Cust. part No. : 3-7332

Customer-spec. information
Customer : MAN
Motor : D 0826 LFL06
Power kW : 162.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 800

Rack travel in mm : 12.70
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 140.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.13
Tolerance mm : ± 0.25

Rated speed rpm : 1250
guide sleeve
travel mm : 10.44
Tolerance mm : ± 0.25

Rated speed rpm : 807
guide sleeve
travel mm : 5.83
Tolerance mm : ± 0.25

Rated speed rpm : 333
guide sleeve
travel mm : 2.03
Tolerance mm : ± 0.25

Rated speed rpm : 383
guide sleeve
travel mm : 2.62
Tolerance mm : ± 0.25

Rated speed rpm : 440
guide sleeve
travel mm : 3.12

Tolerance mm : ± 0.25
Rated speed rpm : 1460
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : VL
Rated speed rpm : 1300

Rack travel in mm : 11.50
Tolerance mm : ± 0.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 800
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 122.0
tolerance degree : ± 4.0

rack travel mm : 11.20
Rated speed rpm : 1253
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1335
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 77.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.70
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 360
Tolerance 1/min : ± 30

Rated speed rpm : 150

CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 800
rack travel mm : 12.70
Tolerance mm : ± 0.05

Rated speed rpm : 1200
rack travel mm : 12.20
Tolerance mm : ± 0.10

Rated speed rpm : 600
rack travel mm : 12.70
Tolerance mm : ± 0.10

Rated speed rpm : 1000
rack travel mm : 12.40
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.70
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 550

rack travel mm : 12.15
Tolerance mm : ± 0.15

Pressure hPa : 155
rack travel mm : 10.35
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1200
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 137.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 138.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 75.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 11.20
Rated speed rpm : 1253
Tolerance 1/min : +- 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 70.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 13.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.01.94
Test oil : ISO 4113
Combination No. : 0403456127
Injection pump
Pump designation : PES6MW100/321RS1201
EP type number : 0413406190
Governor
Governor design. : RQ250/1200MW84-15
Governor no. : 0420082072
Cust. part No. : 3-7331

Customer-spec. information
Customer : MAN
Motor : D 0826 LFL06
Power KW : 162.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1680750008
Outside diameter : 6.0
x inside diameter : 2.0

E20

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 800
Rack travel in mm : 12.70
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 140.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.53
Tolerance mm : ± 0.10

Rated speed rpm : 1262
guide sleeve
travel mm : 7.61
Tolerance mm : ± 0.10

Rated speed rpm : 1200
guide sleeve
travel mm : 7.30
Tolerance mm : ± 0.10

Rated speed rpm : 914
guide sleeve
travel mm : 7.08
Tolerance mm : ± 0.10

Rated speed rpm : 364
guide sleeve
travel mm : 3.68
Tolerance mm : ± 0.10

Rated speed rpm : 530
guide sleeve
travel mm : 7.00

Tolerance mm : ± 0.10

Rated speed rpm : 1380
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

Rated speed rpm : 1061
guide sleeve
travel mm : 7.23
Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 800
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 140.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 102.0
tolerance degree : ± 4.0

rack travel mm : 11.20
Rated speed rpm : 1253
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1335
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 73.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 5.70
Tolerance mm : +- 0.10

Rated speed rpm : 150

CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 800
rack travel mm : 12.70
Tolerance mm : +- 0.05

Rated speed rpm : 1200
rack travel mm : 12.20
Tolerance mm : +- 0.10

Rated speed rpm : 600
rack travel mm : 12.70
Tolerance mm : +- 0.10

Rated speed rpm : 1000
rack travel mm : 12.40
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.70
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : +- 0.05

Rated speed rpm : 500

Pressure hPa : 550
rack travel mm : 12.15
Tolerance mm : +- 0.15

Pressure hPa : 155
rack travel mm : 10.35
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1200
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 137.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 138.0
Tolerance
cm³/1000 strokes : +- 2.0
Check tolerance
cm³/1000S. : +- 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 75.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : 11.20
Rated speed rpm : 1253
Tolerance 1/min : +- 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 70.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 13.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.03.94
Test oil : ISO 4113
Combination No. : 0401849755
Injection pump
Pump designation : PE10P110A920/5LS3164
EP type number : 0411819708
Governor
Governor design. : RQV300...1150PA549
Governor no. : 0421814029
Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BF10L513
Power Kw : 278.0

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Test nozzle holder assembly : 0681343009
Opening pressure bar : 173.5
Tolerance bar : +- 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : +- 1.0
Prestroke mm : 2.85
Tolerance mm : +- 0.05
test only : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1-10- 9- 4- 3- 6
: - 5- 8- 7- 2
Phasing : 0-27-72-99-144-171
: -216-243-288-315
Tolerance : +- 0.30
Check tolerance °NW : +- 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 11.75
Tolerance mm : +- 0.05

Del. quantity
cm³/1000 strokes : 142.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Del. quantity
cm³/1000 strokes : 15.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 5.0

Spreed
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1290

Rack travel in mm : 9.70
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 142.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 55.0
tolerance degree : ± 4.0

control lever
position degree : 123.0
tolerance degree : ± 4.0

rack travel mm : 10.70
Rated speed rpm : 1195
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1300
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 90.0
tolerance degree : ± 4.0

control lever
position degree : 19.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 7.00
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 10.10

Rated speed rpm : 385

TORQUE CONTROL

Rated speed rpm : 800
rack travel mm : 11.75
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 420
rack travel mm : 11.00
Tolerance mm : ± 0.10

Pressure hPa : 450
rack travel mm : 11.45
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 450
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.70
Rated speed rpm : 1195
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 08.03.94
Test oil : ISO 4113
Combination No. : 0402046829
Injection pump
Pump designation : PES6P120A320RS3284
EP type number : 0412026749
Governor
Governor design. : RQV275...1050PA995
: -1
Governor no. : 0421813941
Cust. part No. : CCEP 5120A

Customer-spec. information
Customer : RVI
Motor : MIDR 062045 B/3
Power KW : 186.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : + 1.5
Lube oil : 1409918004
Test lines : 1680750089

E27

Outside diameter : 8.0
x inside diameter : 2.5
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.55
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 151.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
2nd speed rpm	: 275
<hr/>	
Rack travel in mm	: -5.10
Tolerance mm	: ± 0.10
Del. quantity	
cm ³ /1000 strokes	: 24.0
Tolerance	
cm ³ /1000 strokes	: ± 2.0
Check tolerance	
cm ³ /1000S.	: ± 5.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1220
<hr/>	
Rack travel in mm	: 10.50
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: 1000
Del. quantity	
cm ³ /1000 strokes	: 151.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	

Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 300.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: -1.00
Rated speed rpm	: 1130
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: -6.50
Rated speed rpm	: 1225
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: -10.05
Tolerance mm	: ± 0.55
Rated speed rpm	: 1350

LOW IDLE

control lever	
position degree	: 247.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 275
rack travel mm	: -5.10
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 200
CRT mm max.	: < -3.70
<hr/>	
Rated speed rpm	: 390

TORQUE CONTROL

Rated speed rpm	: 1050
Tolerance mm	: ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm	: 500
Pressure hPa	: 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -1.35
Tolerance mm : +- 0.15

Rated speed rpm : 500

Pressure hPa : 130
rack travel mm : -1.00
Tolerance mm : +- 0.10

Pressure hPa : 240
rack travel mm : -0.35
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 210
Check speed 1/min : < 230

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000
Rated speed rpm : 1050
Del. quantity cm3/1000 strokes : 149.0
Tolerance cm3/1000 strokes : +- 3.0
Check tolerance cm3/1000S. : +- 6.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm3/1000 strokes : 105.0
Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1130
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Del. quantity cm3/1000 strokes : 175.0
Tolerance cm3/1000 strokes : +- 15.0
Check tolerance cm3/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -5.10
Tolerance mm : +- 0.10
Del. quantity cm3/1000 strokes : 24.0
Tolerance cm3/1000 strokes : +- 2.0
Check tolerance cm3/1000S. : +- 5.0
Spreed Tolerance cm3/1000 strokes : 8.0
Check tolerance cm3/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.02.94
Test oil : ISO 4113

Combination No. : 0402046856

Injection pump
Pump designation : PE6P110A320RS3329Z
EP type number : 0412016744

Governor
Governor design. : RQV325...1300PA1119
Governor no. : 0421814083

Cust. part No. : 1284417/3

Customer-spec. information
Customer : DAF
Motor : NS133M
Power KW : 133.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

F02

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 146.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 7.5

2nd speed rpm : 325

Rack travel in mm : 5.20
 Tolerance mm : + 0.10

Del. quantity
 cm³/1000 strokes : 26.0
 Tolerance
 cm³/1000 strokes : + 2.5
 Check tolerance
 cm³/1000S. : + 5.0

Spreed
 Tolerance
 cm³/1000 strokes : 4.5
 Check tolerance
 cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
 guide sleeve
 travel mm : 1.33
 Tolerance mm : + 0.15

Rated speed rpm : 1353
 guide sleeve
 travel mm : 8.29
 Tolerance mm : + 0.20

Rated speed rpm : 900
 guide sleeve
 travel mm : 4.92
 Tolerance mm : + 0.25

Rated speed rpm : 405
 guide sleeve
 travel mm : 2.07
 Tolerance mm : + 0.25

Rated speed rpm : 455
 guide sleeve
 travel mm : 2.52
 Tolerance mm : + 0.25

Rated speed rpm : 530
 guide sleeve
 travel mm : 2.93
 Tolerance mm : + 0.25

Rated speed rpm : 1640
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1450

Rack travel in mm : 10.80
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
 Aneroid pressure
 hPa : 1000

Del. quantity
 cm³/1000 strokes : 146.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

RATED SPEED

control lever
 position degree : 122.0
 tolerance degree : + 4.0

rack travel mm : 10.85
 Rated speed rpm : 1345
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1460
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 83.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.50
Tolerance mm : ± 0.10

Rated speed rpm : 225

CRT mm min. : > 6.00

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 11.85
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : 11.85
Tolerance mm : ± 0.05

Rated speed rpm : 1300
rack travel mm : 11.85
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 11.85
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : 310
Rated speed rpm : 600
rack travel mm : 10.55
Tolerance mm : ± 0.05

Rated speed rpm : 600

Pressure hPa : 130
rack travel mm : 7.85
Tolerance mm : ± 0.10

F04

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 88.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 10.85
Rated speed rpm : 1345
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 6.60
Tolerance mm : ± 0.10
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 5.20
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 26.0
Tolerance
cm³/1000 strokes : ± 2.5
Check tolerance
cm³/1000S. : ± 5.0
Speed

Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.5



Tolerance
 cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : ± 4.0

Speed
 Tolerance
 cm³/1000 strokes : 5.0

Check tolerance
 cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : 5.40
 Tolerance mm : ± 0.10

Del. quantity
 cm³/1000 strokes : 16.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 6.0

Speed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
 guide sleeve
 travel mm : 1.92
 Tolerance mm : ± 0.10

Rated speed rpm : 1206
 guide sleeve
 travel mm : 6.49
 Tolerance mm : ± 0.10

Rated speed rpm : 1150
 guide sleeve
 travel mm : 6.00
 Tolerance mm : ± 0.10

Rated speed rpm : 351
 guide sleeve
 travel mm : 4.25
 Tolerance mm : ± 0.10

Rated speed rpm : 440
 guide sleeve
 travel mm : 6.00
 Tolerance mm : ± 0.10

F07

Rated speed rpm : 1360
 guide sleeve
 travel mm : 11.50
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 550

Rack travel in mm : 15.80
 Tolerance mm : ± 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure
 hPa : -

Del. quantity
 cm³/1000 strokes : 172.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0

Speed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 102.0
 tolerance degree : ± 4.0

rack travel mm : 10.70
 Rated speed rpm : 1193
 Tolerance 1/min : ± 8

rack travel mm : 4.00
 Rated speed rpm : 1270
 Tolerance 1/min : ± 15

rack travel mm : 0.70
 Tolerance mm : ± 0.70
 Rated speed rpm : 1450

LOW IDLE

control lever
 position degree : 74.0

tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 4.90
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : ± 20

Rated speed rpm : 175

CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 11.75
Tolerance mm : ± 0.05

Rated speed rpm : 1150
rack travel mm : 11.70
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 11.75
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : 340
Rated speed rpm : 600
rack travel mm : 11.25
Tolerance mm : ± 0.05

Rated speed rpm : 600

Pressure hPa : -
rack travel mm : 9.50
Tolerance mm : ± 0.10

Pressure hPa : 200
rack travel mm : 10.20
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

F08

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 121.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000s. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.70
Rated speed rpm : 1193
Tolerance 1/min : ± 8

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.40
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000s. : ± 6.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000s. : 12.0

Tolerance
 cm³/1000 strokes : ± 1.0

 Check tolerance
 cm³/1000S. : ± 4.0

 Spreed
 Tolerance
 cm³/1000 strokes : 5.0

 Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 275
 Rack travel in mm : 5.40
 Tolerance mm : ± 0.10
 Del. quantity
 cm³/1000 strokes : 16.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275
 guide sleeve
 travel mm : 1.95
 Tolerance mm : ± 0.10
 Rated speed rpm : 1205
 guide sleeve
 travel mm : 6.51
 Tolerance mm : ± 0.10
 Rated speed rpm : 1150
 guide sleeve
 travel mm : 6.00
 Tolerance mm : ± 0.10
 Rated speed rpm : 351
 guide sleeve
 travel mm : 4.27
 Tolerance mm : ± 0.10
 Rated speed rpm : 440
 guide sleeve
 travel mm : 6.00
 Tolerance mm : ± 0.10

F10

Rated speed rpm : 1360
 guide sleeve
 travel mm : 11.50
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 550
 Rack travel in mm : 15.80
 Tolerance mm : ± 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 154.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 5.0
 Check tolerance
 cm³/1000S. : 9.0

RATED SPEED

control lever
 position degree : 99.0
 tolerance degree : ± 4.0
 rack travel mm : 9.70
 Rated speed rpm : 1193
 Tolerance 1/min : ± 8
 rack travel mm : 4.00
 Rated speed rpm : 1265
 Tolerance 1/min : ± 15
 rack travel mm : 0.70
 Tolerance mm : ± 0.70
 Rated speed rpm : 1450

LOW IDLE

control lever
 position degree : 74.0

tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 4.90
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : ± 20

Rated speed rpm : 175

CRT mm min. : > 7.00

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 10.75
Tolerance mm : ± 0.05

Rated speed rpm : 1150
rack travel mm : 10.70
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 10.75
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : 300
Rated speed rpm : 600
rack travel mm : 10.45
Tolerance mm : ± 0.05

Rated speed rpm : 600

Pressure hPa : -
rack travel mm : 9.50
Tolerance mm : ± 0.10

Pressure hPa : 240
rack travel mm : 10.00
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 122.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 9.70
Rated speed rpm : 1193
Tolerance 1/min : ± 8

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.40
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.03.94
Test oil : ISO 4113

Combination No. : 0402646614

Injection pump
Pump designation : PE6P120A320RS7248
: -10W
EP type number : 0412626908

Governor
Governor design. : RQV275...1150PA986
Governor no. : 0421813920

Cust. part No. : 1280139/3

Customer-spec. information
Customer : DAF
Motor : RS 180 M
Power KW : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 130
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

F12

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.75
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	:	154.0
<hr/>		
Tolerance cm ³ /1000 strokes	:	± 1.0
<hr/>		
Check tolerance cm ³ /1000S.	:	± 4.0
<hr/>		
Spreed Tolerance cm ³ /1000 strokes	:	5.0
<hr/>		
Check tolerance cm ³ /1000S.	:	9.0
2nd speed rpm	:	275
Rack travel in mm	:	5.40
Tolerance mm	:	± 0.10
Del. quantity cm ³ /1000 strokes	:	20.0
Tolerance cm ³ /1000 strokes	:	± 3.0
Check tolerance cm ³ /1000S.	:	± 6.0
Spreed Tolerance cm ³ /1000 strokes	:	8.0
Check tolerance cm ³ /1000S.	:	12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	275
guide sleeve travel mm	:	1.44
Tolerance mm	:	± 0.25
Rated speed rpm	:	1206
guide sleeve travel mm	:	8.24
Tolerance mm	:	± 0.25
Rated speed rpm	:	799
guide sleeve travel mm	:	5.21
Tolerance mm	:	± 0.25
Rated speed rpm	:	315
guide sleeve travel mm	:	1.98
Tolerance mm	:	± 0.25
Rated speed rpm	:	365

guide sleeve travel mm	:	2.52
Tolerance mm	:	± 0.25
Rated speed rpm	:	450
guide sleeve travel mm	:	3.07
Tolerance mm	:	± 0.25
Rated speed rpm	:	1500
guide sleeve travel mm	:	11.50
Tolerance mm	:	± 0.50

GUIDE SLEEVE POSITION

control lever position degree	:	- 1
Rated speed rpm	:	1350
Rack travel in mm	:	9.70
Tolerance mm	:	± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure hPa	:	-
Del. quantity cm ³ /1000 strokes	:	154.0
Tolerance cm ³ /1000 strokes	:	± 1.0
Check tolerance cm ³ /1000S.	:	± 4.0
Spreed Tolerance cm ³ /1000 strokes	:	5.0
Check tolerance cm ³ /1000S.	:	9.0

RATED SPEED

control lever position degree	:	118.0
tolerance degree	:	± 4.0
rack travel mm	:	9.70
Rated speed rpm	:	1193
Tolerance 1/min	:	± 5
rack travel mm	:	4.00
Rated speed rpm	:	1290
Tolerance 1/min	:	± 15
rack travel mm	:	0.70
Tolerance mm	:	± 0.70

Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 82.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 4.90
Tolerance mm : ± 0.10

Rated speed rpm : 175

CRT mm min. : > 7.40

Rated speed rpm : 340

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 10.75
Tolerance mm : ± 0.05

Rated speed rpm : 1150
rack travel mm : 10.70
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 10.75
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : 300
Rated speed rpm : 600
rack travel mm : 10.45
Tolerance mm : ± 0.05

Rated speed rpm : 600

Pressure hPa : -
rack travel mm : 9.50
Tolerance mm : ± 0.10

Pressure hPa : 240
rack travel mm : 10.00

Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 122.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 9.70
Rated speed rpm : 1193
Tolerance 1/min : ± 5

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.40
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 20.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 03.03.94
Test oil : ISO 4113

Combination No. : 0402646615

Injection pump
Pump designation : PE6P120A320RS7248
: -10X
EP type number : 0412626907

Governor
Governor design. : RQV275...1150PA986
Governor no. : 0421813920

Cust. part No. : 1280141

Customer-spec. information
Customer : DAF
Motor : RS 200 M
Power KW : 200.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 130
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

F15

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 11.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30

Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.75
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 172.0
<hr/>	
Tolerance cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed Tolerance cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance cm ³ /1000S.	: 9.0
2nd speed rpm	: 275
Rack travel in mm	: 5.40
Tolerance mm	: ± 0.10
Del. quantity cm ³ /1000 strokes	: 16.0
Tolerance cm ³ /1000 strokes	: ± 3.0
Check tolerance cm ³ /1000S.	: ± 6.0
Spreed Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve travel mm	: 1.44
Tolerance mm	: ± 0.25
Rated speed rpm	: 1206
guide sleeve travel mm	: 8.24
Tolerance mm	: ± 0.25
Rated speed rpm	: 799
guide sleeve travel mm	: 5.21
Tolerance mm	: ± 0.25
Rated speed rpm	: 315
guide sleeve travel mm	: 1.98
Tolerance mm	: ± 0.25
Rated speed rpm	: 365

guide sleeve travel mm	: 2.52
Tolerance mm	: ± 0.25
Rated speed rpm	: 450
guide sleeve travel mm	: 3.07
Tolerance mm	: ± 0.25
Rated speed rpm	: 1500
guide sleeve travel mm	: 11.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1335
Rack travel in mm	: 10.30
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure hPa	: -
Del. quantity cm ³ /1000 strokes	: 172.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Spreed Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

RATED SPEED

control lever position degree	: 119.0
tolerance degree	: ± 4.0
rack travel mm	: 10.70
Rated speed rpm	: 1195
Tolerance 1/min	: ± 5
rack travel mm	: 4.00
Rated speed rpm	: 1305
Tolerance 1/min	: ± 15
rack travel mm	: 0.70
Tolerance mm	: ± 0.70

Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 82.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 4.90
Tolerance mm : ± 0.10

Rated speed rpm : 175

CRT mm min. : > 7.40

Rated speed rpm : 368

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 11.75
Tolerance mm : ± 0.05

Rated speed rpm : 1150
rack travel mm : 11.70
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 11.75
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : 340
Rated speed rpm : 600
rack travel mm : 11.25
Tolerance mm : ± 0.05

Rated speed rpm : 600

Pressure hPa : -
rack travel mm : 9.50
Tolerance mm : ± 0.10

Pressure hPa : 200
rack travel mm : 10.20

Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 121.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.70
Rated speed rpm : 1195
Tolerance 1/min : ± 5

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.40
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.12.93
Test oil : ISO 4113

Combination No. : 0402646968

Injection pump
Pump designation : PE6P120A320RS7248
: -10
EP type number : 0412626900

Governor
Governor design. : RQV275...1150PA986
Governor no. : 0421813920

Cust. part No. : 1248033

Customer-spec. information

Customer : DAF
Motor : RS 222 L
Power KW : 222.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 130
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 12.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.25
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm3/1000 strokes :	187.0
<hr/>	
Tolerance	
cm3/1000 strokes :	+ 1.0
<hr/>	
Check tolerance	
cm3/1000S.	: + 4.0
<hr/>	
Spreed	
Tolerance	
cm3/1000 strokes :	5.0
<hr/>	
Check tolerance	
cm3/1000S.	: 9.0
<hr/>	
2nd speed rpm	: 275
<hr/>	
Rack travel in mm	: 5.40
Tolerance mm	: + 0.10
Del. quantity	
cm3/1000 strokes	: 16.0
Tolerance	
cm3/1000 strokes	: + 3.0
Check tolerance	
cm3/1000S.	: + 6.0
Spreed	
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1325
<hr/>	
Rack travel in mm	: 11.20
Tolerance mm	: + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure	
hPa	: -
Del. quantity	
cm3/1000 strokes	: 187.0
Tolerance	
cm3/1000 strokes	: + 1.0
Check tolerance	
cm3/1000S.	: + 4.0

Spreed	
Tolerance	
cm3/1000 strokes :	5.0
Check tolerance	
cm3/1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 119.0
tolerance degree	: + 4.0
<hr/>	
rack travel mm	: 11.20
Rated speed rpm	: 1195
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1310
Tolerance 1/min	: + 15
<hr/>	
rack travel mm	: 0.70
Tolerance mm	: + 0.70
Rated speed rpm	: 1450

LOW IDLE

control lever	
position degree	: 83.0
tolerance degree	: + 4.0

Testing:

Rated speed rpm	: 275
rack travel mm	: 4.70
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 175
<hr/>	
CRT mm min.	: > 6.70
<hr/>	
Rated speed rpm	: 340

TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 12.25
Tolerance mm	: + 0.05
<hr/>	
Rated speed rpm	: 1150
rack travel mm	: 12.20
Tolerance mm	: + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 600
Pressure hPa : 1000
rack travel mm : 12.25
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : 420
Rated speed rpm : 600
rack travel mm : 11.65
Tolerance mm : ± 0.05

Rated speed rpm : 600

Pressure hPa : -
rack travel mm : 9.40
Tolerance mm : ± 0.10

Pressure hPa : 240
rack travel mm : 10.40
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 122.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.20
Rated speed rpm : 1195
Tolerance 1/min : ± 5

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.40

F20

Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.03.94
Test oil : ISO 4113

Combination No. : 0402746931

Injection pump
Pump designation : PES6P120A32ORS7236
EP type number : 0412726848

Governor
Governor design. : RQV275...1000PA1001
 : -2
Governor no. : 0421813989

Cust. part No. : CCEP5128A

Customer-spec. information
Customer : RVI
Motor : MIDR 063540 N/3
Power KW : 283.0

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413071

Inlet press. bar : 2.5

Test nozzle holder assembly : 1688901105

Opening pressure bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089

F21

Outside diameter : 8.0
x inside diameter : 2.5
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 19.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 286.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : -8.10
Tolerance mm : +- 0.20

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1190

Rack travel in mm : 13.20
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 286.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 301.0
tolerance degree : +- 4.0

rack travel mm : -1.00
Rated speed rpm : 1070
Tolerance 1/min : +- 5

rack travel mm : -9.20
Rated speed rpm : 1205
Tolerance 1/min : +- 15

rack travel mm : -12.75
Tolerance mm : +- 0.55
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 247.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300
rack travel mm : -8.10
Tolerance mm : +- 0.10

Rated speed rpm : 200

CRT mm max. : < -6.70

Rated speed rpm : 365

TORQUE CONTROL

Rated speed rpm : 1000
Tolerance mm : +- 0.10

Rated speed rpm : 600
rack travel mm : -4.50
Tolerance mm : +- 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -

Rated speed rpm : 500
rack travel mm : -3.70
Tolerance mm : ± 0.30

Rated speed rpm : 500
Pressure hPa : 240
rack travel mm : -2.90
Tolerance mm : ± 0.20

Pressure hPa : 480
rack travel mm : -1.05
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 195
Check speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000
Rated speed rpm : 1000
Del. quantity cm³/1000 strokes : 266.0
Tolerance cm³/1000 strokes : ± 3.0
Check tolerance cm³/1000S. : ± 6.0

Aneroid pressure hPa : -
Rated speed rpm : 600
Del. quantity cm³/1000 strokes : 158.0
Tolerance cm³/1000 strokes : ± 5.0
Check tolerance cm³/1000S. : ± 8.0
Spreed Tolerance cm³/1000 strokes : 10.0
Check tolerance cm³/1000S. : 14.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 168.0
Tolerance cm³/1000 strokes : ± 1.0
Check tolerance cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1070
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Del. quantity cm³/1000 strokes : 160.0
Tolerance cm³/1000 strokes : ± 15.0
Check tolerance cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : -8.10
Tolerance mm : ± 0.20

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.02.94
Test oil : ISO 4113

Combination No. : 0402010700

Injection pump
Pump designation : PES12P120A900RS3332
EP type number : 0412020700

Governor
Governor design. :
Governor no. :

Cust. part No. :

Customer spec. information
Customer : FINCANTIERI
Motor : V 1312 T3

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0

F24

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1-12-9-4-5
 : -8-11-2-3
 : -10-7-6

Phasing : 0-45-60-105-120
 : -165-180-225-240
 : -285-300-345
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 15.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 288.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 350

Rack travel in mm : 8.10
Tolerance mm : ± 0.20

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 288.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

TORQUE CONTROL

Rated speed rpm : 750
rack travel mm : 15.35
Tolerance mm : ± 0.05

LOW IDLE

Rated speed rpm : 350
rack travel mm : 8.10
Tolerance mm : ± 0.20

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.02.94
Test oil : ISO 4113

Combination No. : 0402018702

Injection pump
Pump designation : PES8P120A300RS3333
EP type number : 0412028708

Governor
Governor design. :
Governor no. :

Cust. part No. :

Customer-spec. information
Customer : FINCANTIERI
Motor : 1308 V

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0

F26

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 2- 7- 8- 4
 : - 5- 6- 3

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 15.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 288.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 350

Rack travel in mm : 8.10
Tolerance mm : ± 0.20

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750

Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 288.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

TORQUE CONTROL

Rated speed rpm : 750

rack travel mm : 15.35

Tolerance mm : ± 0.05

LOW IDLE

Rated speed rpm : 350

rack travel mm : 8.10

Tolerance mm : ± 0.20

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.03.94
Test oil : ISO 4113

Combination No. : 0402046344

Injection pump
Pump designation : PES6P120A320RS3277
EP type number : 0412026747

Governor
Governor design. : RQV275...1050PA995
Governor no. : 0421813929

Cust. part No. : CCEP 5110A

Customer-spec. information

Customer : RVI
Motor : MIDR 06 20 45
Power KW : 222.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413071

Inlet press. bar : 2.5

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0

F28

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

betw. rack trav.
mm : 10.50
Tolerance mm : ± 0.50

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 650

Rack travel in mm : 9.85
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 188.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 275

Rack travel in mm : -4.10
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1125

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 650
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 188.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

G01

Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 300.0
tolerance degree : ± 4.0

rack travel mm : -1.00
Rated speed rpm : 1140
Tolerance 1/min : ± 5

rack travel mm : -5.80
Rated speed rpm : 1220
Tolerance 1/min : ± 15

rack travel mm : -9.35
Tolerance mm : ± 0.55
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 248.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -4.10
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm max. : < -2.40

Rated speed rpm : 370

TORQUE CONTROL

Rated speed rpm : 1050
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500

Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -1.90
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 200
rack travel mm : -1.30
Tolerance mm : ± 0.10

Pressure hPa : 360
rack travel mm : -0.45
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 195
Check
speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 178.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 111.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1140
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

G02

Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -4.10
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 16.03.94
Test oil : ISO 4113
Combination No. : 0402746908
Injection pump
Pump designation : PES6P120A320RS7232
EP type number : 0412726846
Governor
Governor design. : RQV275...1000PA1001
Governor no. : 0421813931
Cust. part No. : CCEP 5111A

Customer-spec. information
Customer : RVI
Motor : MIDR 062045 E/3
Power KW : 249.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2417413071
Inlet press. bar : 2.5
Test nozzle holder
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Lube oil : 1409918004
Test lines : 1680750089
Outside diameter : 8.0

G03

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.70
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 19.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.75
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes	: 265.0
<hr/>	
Tolerance	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 4.0
<hr/>	
Spread	
Tolerance	
cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
2nd speed rpm	: 275
<hr/>	
Rack travel in mm	: -8.20
Tolerance mm	: ± 0.20
Del. quantity	
cm ³ /1000 strokes	: 31.0
Tolerance	
cm ³ /1000 strokes	: ± 2.0
Check tolerance	
cm ³ /1000S.	: ± 5.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve	
travel mm	: 1.30
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1070
guide sleeve	
travel mm	: 8.30
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 850
guide sleeve	
travel mm	: 6.60
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 500
guide sleeve	
travel mm	: 3.90
Tolerance mm	: ± 0.30

Rated speed rpm	: 1400
guide sleeve	
travel mm	: 11.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1165
<hr/>	
Rack travel in mm	: 13.60
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 600
Aneroid pressure	
hPa	: 1000
Del. quantity	
cm ³ /1000 strokes	: 265.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spread	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 302.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: -1.00
Rated speed rpm	: 1080
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: -9.70
Rated speed rpm	: 1225
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: -13.25
Tolerance mm	: ± 0.55
Rated speed rpm	: 1300

LOW IDLE

control lever	
position degree	: 247.0

tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -8.20
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm max. : < -6.70

Rated speed rpm : 370

TORQUE CONTROL

Rated speed rpm : 600

Rated speed rpm : 1000
Tolerance mm : ± 0.10

Rated speed rpm : 500
rack travel mm : -5.50

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -4.20
Tolerance mm : ± 0.30

Rated speed rpm : 500

Pressure hPa : 200
rack travel mm : -3.50
Tolerance mm : ± 0.15

Pressure hPa : 520
rack travel mm : -0.85
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 225
Check speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 244.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 91.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 122.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1080
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 156.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -8.20
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 31.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.03.94
Test oil : ISO 4113
Combination No. : 0403244037
Injection pump
Pump designation : PES4MW100/72ORS1519
: -2
EP type number : 0413204017
Governor
Governor design. : RQV300...1300MW132
: -6
Governor no. : 0420083309
Cust. part No. : 0240744002

Customer spec. information
Customer : MB-NFZ
Motor : OM364LA
Power KW : 103.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

G07

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.90
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 126.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 7.5
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1510
 Rack travel in mm : 16.50
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 1400
 Del. quantity
 cm³/1000 strokes : 126.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

RATED SPEED

control lever
 position degree : 116.0
 tolerance degree : ± 4.0
 rack travel mm : 12.90
 Rated speed rpm : 1345
 Tolerance 1/min : ± 5

GOS

rack travel mm : 4.00
 Rated speed rpm : 1450
 Tolerance 1/min : ± 15
 rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1550

LOW IDLE

control lever
 position degree : 71.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 3.80
 Tolerance mm : ± 0.10
 Rated speed rpm : 200
 CRT mm min. : > 4.50

TORQUE CONTROL

Rated speed rpm : 1300
 rack travel mm : 13.90
 Tolerance mm : ± 0.05
 Rated speed rpm : 750
 rack travel mm : 13.90
 Tolerance mm : ± 0.10
 Rated speed rpm : 600
 rack travel mm : 13.90
 Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1400
 rack travel mm : 13.90
 Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 500
 rack travel mm : 10.80
 Tolerance mm : ± 0.10

Rated speed rpm : 500
Pressure hPa : 800
rack travel mm : 13.10
Tolerance mm : ± 0.10

Pressure hPa : 550
rack travel mm : 11.60
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 200
Check speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1400
Rated speed rpm : 750
Del. quantity cm³/1000 strokes : 124.0
Tolerance cm³/1000 strokes : ± 2.0
Check tolerance cm³/1000S. : ± 5.0
Spreed Tolerance cm³/1000 strokes : 6.0
Check tolerance cm³/1000S. : 9.0

Aneroid pressure hPa : 1400
Rated speed rpm : 600
Del. quantity cm³/1000 strokes : 128.0
Tolerance cm³/1000 strokes : ± 2.0
Check tolerance cm³/1000S. : ± 5.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 67.0
Tolerance cm³/1000 strokes : ± 1.0
Check tolerance cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 12.90
Rated speed rpm : 1345
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 140.0
Tolerance cm³/1000 strokes : ± 5.0
Check tolerance cm³/1000S. : ± 8.0

LOW IDLE

Del. quantity cm³/1000 strokes : 12.0
Tolerance cm³/1000 strokes : ± 2.0
Check tolerance cm³/1000S. : ± 4.5
Spreed Tolerance cm³/1000 strokes : 3.5
Check tolerance cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 14.03.94
Test oil : ISO 4113
Combination No. : 0403246035
Injection pump
Pump designation : PES6MW100/720RS1517
: -3
EP type number : 0413206020
Governor
Governor design. : RQV300...1300MW132
: -2
Governor no. : 0420083293
Cust. part No. : 0240744202

Customer spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 125.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 12.00
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 102.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
 cm³/1000 strokes : 3.5

 Check tolerance
 cm³/1000S. : 6.0

 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.02
 Tolerance mm : ± 0.25

 Rated speed rpm : 1353
 guide sleeve
 travel mm : 6.70
 Tolerance mm : ± 0.25

 Rated speed rpm : 1100
 guide sleeve
 travel mm : 4.76
 Tolerance mm : ± 0.25

 Rated speed rpm : 490
 guide sleeve
 travel mm : 2.25
 Tolerance mm : ± 0.25

 Rated speed rpm : 540
 guide sleeve
 travel mm : 2.50
 Tolerance mm : ± 0.25

 Rated speed rpm : 710
 guide sleeve
 travel mm : 3.03
 Tolerance mm : ± 0.25

 Rated speed rpm : 1683
 guide sleeve
 travel mm : 12.00
 Tolerance mm : ± 0.25

Rated speed rpm : 1780
 guide sleeve
 travel mm : 13.50
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1580

 Rack travel in mm : 16.50
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 1000
 Del. quantity
 cm³/1000 strokes : 102.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

RATED SPEED

control lever
 position degree : 116.0
 tolerance degree : ± 4.0

 rack travel mm : 11.00
 Rated speed rpm : 1345
 Tolerance 1/min : ± 5

 rack travel mm : 4.00
 Rated speed rpm : 1470
 Tolerance 1/min : ± 15

 rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1550

LOW IDLE

control lever
 position degree : 71.0

tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.10
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 5.00

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 12.00
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 12.00
Tolerance mm : ± 0.10

Rated speed rpm : 600
rack travel mm : 12.00
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.00
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.90
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 300
rack travel mm : 11.35
Tolerance mm : ± 0.10

Pressure hPa : 150
rack travel mm : 10.35
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 220

Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 93.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 53.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 11.00
Rated speed rpm : 1345
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.03.94
Test oil : ISO 4113

Combination No. : 0401846529

Injection pump
Pump designation : PE6P120A32ORS3186
EP type number : 0411826756

Governor
Governor design. : RQV250...1025PA921
 : -4
Governor no. : 0421813787

Cust. part No. : 422719-P05

Customer-spec. information
Customer : VOLVO-TRUCK
Motor : TD102F (Q)
Power KW : 220.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413046

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.65
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Del. quantity
cm³/1000 strokes : 198.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1080

Rack travel in mm : 16.50
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 198.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 62.0
tolerance degree : + 4.0

control lever
position degree : 117.0
tolerance degree : + 4.0

rack travel mm : 10.40
Rated speed rpm : 1060
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1125

Tolerance 1/min : + 15
rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 65.0
tolerance degree : + 4.0

control lever
position degree : 8.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.30
Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 5.70

Rated speed rpm : 300

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 11.45
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.90
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : -
rack travel mm : 2.00
Tolerance mm : + 0.10

Pressure hPa : 65
rack travel mm : 0.25
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 144.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.40
Rated speed rpm : 1060
Tolerance 1/min : ± 5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.03.94
Test oil : ISO 4113

Combination No. : 0402016705

Injection pump
Pump designation : PES6P120A700LS3334
EP type number : 0412026769

Governor
Governor design. :
Governor no. :

Cust. part No. :

Customer-spec. information
Customer : FINCANTIERI
Motor : L 1306 T3

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 15.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 276.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 9.0
 2nd speed rpm : 350
 Rack travel in mm : 7.50
 Tolerance mm : ± 0.20
 Del. quantity
 cm³/1000 strokes : 18.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 10.0
 Check tolerance
 cm³/1000S. : 14.0

Del. quantity
 cm³/1000 strokes : 18.0
 Tolerance
 cm³/1000 strokes : ± 3.0
 Check tolerance
 cm³/1000S. : ± 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 10.0
 Check tolerance
 cm³/1000S. : 14.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
 Aneroid pressure
 hPa : 1300
 Del. quantity
 cm³/1000 strokes : 276.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 9.0

LOW IDLE

Rated speed rpm : 350
 rack travel mm : 7.50
 Tolerance mm : ± 0.20

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.03.94
Test oil : ISO 4113

Combination No. : 0402846052

Injection pump
Pump designation : PE6P110A32ORS8009-1
EP type number : 0412816011

Governor
Governor design. : RQV300...1100PA1017
Governor no. : 0421813965

Cust. part No. : 110030651-P02? FAX

Customer-spec. information

Customer : VME
Motor : TD73KBE

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413078

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test Lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0

G19

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.85
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : ± 0.30

Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 9.60
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 147.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Speed

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.19
Tolerance mm : ± 0.25

Rated speed rpm : 1157
guide sleeve
travel mm : 8.41
Tolerance mm : ± 0.25

Rated speed rpm : 824
guide sleeve
travel mm : 5.33
Tolerance mm : ± 0.25

Rated speed rpm : 385
guide sleeve
travel mm : 1.98
Tolerance mm : ± 0.25

Rated speed rpm : 435
guide sleeve
travel mm : 2.45
Tolerance mm : ± 0.25

Rated speed rpm : 530
guide sleeve
travel mm : 3.11
Tolerance mm : ± 0.25

Rated speed rpm : 1400
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1160

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1200
Del. quantity
cm³/1000 strokes : 147.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 40.0
tolerance degree : ± 4.0

control lever
position degree : 106.0
tolerance degree : ± 4.0

rack travel mm : 8.60
Rated speed rpm : 1145
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1215
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1320

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

control lever
position degree : 8.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.30
Tolerance mm : ± 0.30

Rated speed rpm : 200
CRT mm min. : > 5.90
Rated speed rpm : 335

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1000
Pressure hPa : 1200
rack travel mm : 9.60
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1000
rack travel mm : 7.70
Tolerance mm : \pm 0.10

Rated speed rpm : 1000

Pressure hPa : 480
rack travel mm : 1.50
Tolerance mm : \pm 0.20

Pressure hPa : 270
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 117.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 8.60
Rated speed rpm : 1145
Tolerance 1/min : \pm 5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 13.04.94
Test oil : ISO 4113
Combination No. : 0400866177
Injection pump
Pump designation : PES6A95D12ORS2773
EP type number : 0410896904
Governor
Governor design. : RSV410...1050AOC2260
 : -2R
Governor no. : 0420233342

Cust. part No. :

Customer-spec. information
Customer : CUMMINS
Motor : 6 BT
Power KW : 150.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Hydraulic latching of starting delivery.

Start-of-delivery mark 11.5° cam angle after start of delivery cyl. 1

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 2.15
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

°NW after s.o.d. : 11.5
S.o.d. blocking
Barrel no. : 1
°NW after s.o.d. : 11.5
Check
tolerance °NW : ± 0.55

BASIC SETTING

Rated speed rpm : 1050

<hr/>	
Rack travel in mm :	11.00
Tolerance mm :	+ 0.05
<hr/>	
Del. quantity cm ³ /1000 strokes :	97.0
<hr/>	
Tolerance cm ³ /1000 strokes :	+ 1.0
<hr/>	
Check tolerance cm ³ /1000S. :	+ 3.0
<hr/>	
Spreed Tolerance cm ³ /1000 strokes :	3.5
<hr/>	
Check tolerance cm ³ /1000S. :	8.0
<hr/>	
2nd speed rpm :	410
<hr/>	
Rack travel in mm :	7.00
Tolerance mm :	+ 0.10
Del. quantity cm ³ /1000 strokes :	16.0
Tolerance cm ³ /1000 strokes :	+ 2.0
Check tolerance cm ³ /1000S. :	+ 4.5
Spreed Tolerance cm ³ /1000 strokes :	5.5
Check tolerance cm ³ /1000S. :	9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree :	- 3
Rated speed rpm :	800
<hr/>	
Rack travel in mm :	0.50
Tolerance mm :	+ 0.20
<hr/>	
governor spring pre-tension click setting x :	1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1050
Aneroid pressure hPa :	900
Del. quantity cm ³ /1000 strokes :	97.0
Tolerance cm ³ /1000 strokes :	+ 1.0
Check tolerance cm ³ /1000S. :	+ 3.0
Spreed Tolerance cm ³ /1000 strokes :	3.5
Check tolerance cm ³ /1000S. :	8.0

RATED SPEED

control lever position degree :	85.0
tolerance degree :	+ 4.0
<hr/>	
rack travel mm :	10.00
Rated speed rpm :	1095
Tolerance 1/min :	+ 5
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1175
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	1300
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1195

LOW IDLE

control lever position degree :	66.0
tolerance degree :	+ 4.0
<hr/>	
Setting point w/out bumper spring	
Rated speed rpm :	410
rack travel mm :	6.50
<hr/>	
Testing:	
Rated speed rpm :	410
rack travel mm :	7.00
Tolerance mm :	+ 0.10
<hr/>	
rack travel mm :	2.00
Rated speed rpm :	520
Tolerance 1/min :	+ 30

Rated speed rpm : 100
CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.00
Tolerance mm : ± 0.05

Rated speed rpm : 500
rack travel mm : 11.05
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 11.00
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.50
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 260
rack travel mm : 9.90
Tolerance mm : ± 0.10

Pressure hPa : 550
rack travel mm : 10.65
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 900
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 86.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 58.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 10.00
Rated speed rpm : 1095
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 14.00
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : ± 7.5
Check tolerance
cm³/1000S. : ± 10.0

LOW IDLE

Rated speed rpm : 410
rack travel mm : 7.00
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Speed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 9.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.04.94
Test oil : ISO 4113

Combination No. : 0403276006

Injection pump
Pump designation : PES6MW100/720RS1517
: -3
EP type number : 0413206020

Governor
Governor design. : RSV350...1200MWOA355
: -1
Governor no. : 0420085229

Cust. part No. : 0250740202

Customer-spec. information
Customer : MB-NFZ
Motor : OM366LA
Power KW : 120.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1688901101

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 102.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5

Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.65
Tolerance mm : + 0.35

governor spring
pre-tension
click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 102.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 3.0

Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 96.0
tolerance degree : + 4.0

rack travel mm : 10.40
Rated speed rpm : 1245
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1320
Tolerance 1/min : + 15

rack travel mm : 1.00
Tolerance mm : + 0.70
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 66.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 3.30
Tolerance mm : + 0.10

rack travel mm : 2.00

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1200
rack travel mm : 11.45
Tolerance mm : + 0.05

Rated speed rpm : 750
rack travel mm : 11.45
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 11.45
Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.65
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 530
rack travel mm : 11.00
Tolerance mm : ± 0.10

Pressure hPa : 350
rack travel mm : 10.00
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 99.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 63.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 10.40
Rated speed rpm : 1245
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity
cm³/1000 strokes : 95.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.06.94
Test oil : ISO 4113
Combination No. : 0400846616
Injection pump
Pump designation : PES6A95D410RS2844
EP type number : 0410896893
Governor
Governor design. : RQV300...1400AB1065
 : -32L
Governor no. : 0420212248
Cust. part No. : 025 074 5902

Customer-spec. information
Customer : MB-NFZ
Motor : OM 366
Power KW : 95.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1680750015
Outside diameter : 6.0

x inside diameter : 1.5
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 3.25
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
 : 4
Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1400
Rack travel in mm : 8.75
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 74.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
 cm³/1000S. : 6.0
 2nd speed rpm : 300
 Rack travel in mm : 4.50
 Tolerance mm : ± 0.10
 Del. quantity
 cm³/1000 strokes : 10.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 1.06
 Tolerance mm : ± 0.25
 Rated speed rpm : 1452
 guide sleeve
 travel mm : 8.03
 Tolerance mm : ± 0.25
 Rated speed rpm : 593
 guide sleeve
 travel mm : 3.46
 Tolerance mm : ± 0.25
 Rated speed rpm : 643
 guide sleeve
 travel mm : 3.84
 Tolerance mm : ± 0.25
 Rated speed rpm : 1030
 guide sleeve
 travel mm : 5.33
 Tolerance mm : ± 0.25
 Rated speed rpm : 1820
 guide sleeve
 travel mm : 11.50
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1450
 Rack travel in mm : 16.50
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 74.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 3.0
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

RATED SPEED

control lever
 position degree : 113.0
 tolerance degree : ± 4.0
 rack travel mm : 7.75
 Rated speed rpm : 1445
 Tolerance 1/min : ± 5
 rack travel mm : 4.00
 Rated speed rpm : 1525
 Tolerance 1/min : ± 15
 rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1650

LOW IDLE

control lever
 position degree : 64.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 4.50
 Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 6.00

TORQUE CONTROL

Rated speed rpm : 500
rack travel mm : 8.80
Tolerance mm : + 0.15

START CUT-OUT

Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 57.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 7.75
Rated speed rpm : 1445
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 11.00
Tolerance mm : + 0.20
Del. quantity
cm³/1000 strokes : 83.0
Tolerance
cm³/1000 strokes : + 5.0
Check tolerance
cm³/1000S. : + 8.0

LOW IDLE

Rated speed rpm : 300

H02

rack travel mm : 4.50
Tolerance mm : + 0.10
Del. quantity
cm³/1000 strokes : 10.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.06.94
Test oil : ISO 4113

Combination No. : 0402646787

Injection pump
Pump designation : PE6P120A32OLS7858
EP type number : 0412626875

Governor
Governor design. : RQ300/1050PA1031-12
Governor no. : 0421801681

Cust. part No. : 0240743102

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power Kw : 180.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

H03

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30

Check
tolerance °Nw : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 173.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.48
Tolerance mm : ± 0.10

Rated speed rpm : 1108
guide sleeve
travel mm : 6.39
Tolerance mm : ± 0.10

Rated speed rpm : 1050
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 404

guide sleeve
travel mm : 4.97
Tolerance mm : ± 0.10

Rated speed rpm : 490
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1280
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050
Aneroid pressure
hPa : 700

Del. quantity
cm³/1000 strokes : 173.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 91.0
tolerance degree : ± 4.0

rack travel mm : 10.25
Rated speed rpm : 1098
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1175
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 240
rack travel mm : 3.80

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 380
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 7.20

TORQUE CONTROL

Rated speed rpm : 1050
rack travel mm : 11.25
Tolerance mm : ± 0.05

Rated speed rpm : 550
rack travel mm : 11.25
Tolerance mm : ± 0.05

Rated speed rpm : 400
rack travel mm : 10.55
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 700
rack travel mm : 11.25
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.30

H05

Tolerance mm : ± 0.15

Rated speed rpm : 400

Pressure hPa : 250
rack travel mm : 10.90
Tolerance mm : ± 0.10

Pressure hPa : 200
rack travel mm : 10.55
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 550

Del. quantity
cm³/1000 strokes : 164.0
Tolerance

cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 200
Rated speed rpm : 400

Del. quantity
cm³/1000 strokes : 119.0
Tolerance

cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500

Del. quantity
cm³/1000 strokes : 135.0
Tolerance

cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 10.25
Rated speed rpm : 1098
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 280.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.06.94
Test oil : ISO 4113

Combination No. : 0402746913

Injection pump
Pump designation : PES6P120A720LS7237
: -11

EP type number : 0412726911

Governor
Governor design. : RG300/1100PA1008-3
Governor no. : 0421801744

Cust. part No. : 0200747802

Customer-spec. information
Customer : MB-NFZ
Motor : OM447 hA
Power KW : 184.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 1.0

Tolerance l/h : + 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750075

H07

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 2- 4- 1- 5-
: 3

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.70
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 199.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.90
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.22
Tolerance mm : ± 0.10

Rated speed rpm : 1159
guide sleeve
travel mm : 6.36
Tolerance mm : ± 0.10

Rated speed rpm : 1100
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 380
guide sleeve
travel mm : 4.97
Tolerance mm : ± 0.10

Rated speed rpm : 450

H08

guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1340
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100
Aneroid pressure
hPa : 1400

Del. quantity
cm³/1000 strokes : 199.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 96.0
tolerance degree : ± 4.0

rack travel mm : 12.70
Rated speed rpm : 1153
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1240
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 395
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 8.00

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 13.70
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 13.70
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500

Pressure hPa : 600
rack travel mm : 0.55
Tolerance mm : ± 0.05

Pressure hPa : 800
rack travel mm : 0.90
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 203.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 145.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.70
Rated speed rpm : 1153
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 230.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0

Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.06.94
Test oil : ISO 4113
Combination No. : 0403236005
Injection pump Pump designation : PES6MW100/320/3RS151 : 8-1
EP type number : 0413206018
Governor Governor design. : RGV325...1300MW133 : -1K
Governor no. : 0420083984
Cust. part No. :

Customer-spec. information
Customer : PERKINS
Motor : 180 TI
Power KW : 134.0

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder assembly : 1688901101
Opening pressure bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750008
Outside diameter : 6.0

H11

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 5.00
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 13.00
Tolerance mm : ± 1.00
Firing order : 1- 5- 3- 6- 2- : 4
Phasing : 0-60-120-180-240 : -300
Tolerance : ± 0.50
Check tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 14.65
Tolerance mm : ± 0.05
Del. quantity cm3/1000 strokes : 141.0
Tolerance cm3/1000 strokes : ± 1.0
Check tolerance cm3/1000S. : ± 4.0
Speed

Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

Del. quantity
cm³/1000 strokes : 23.0

Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5

Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 1.70
Tolerance mm : ± 0.25

Rated speed rpm : 1355
guide sleeve
travel mm : 10.23
Tolerance mm : ± 0.25

Rated speed rpm : 881
guide sleeve
travel mm : 6.46
Tolerance mm : ± 0.25

Rated speed rpm : 361
guide sleeve
travel mm : 2.34
Tolerance mm : ± 0.25

Rated speed rpm : 411
guide sleeve
travel mm : 3.01
Tolerance mm : ± 0.25

Rated speed rpm : 500
guide sleeve
travel mm : 3.92
Tolerance mm : ± 0.25

Rated speed rpm : 1630
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1380

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 141.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 120.0
tolerance degree : ± 4.0

rack travel mm : 13.60
Rated speed rpm : 1345
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1475
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 72.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 5.80
Tolerance mm : ± 0.10

Rated speed rpm : 200
CRT mm min. : > 8.00

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 14.65
Tolerance mm : ± 0.05

Rated speed rpm : 800
rack travel mm : 13.35
Tolerance mm : ± 0.10

Rated speed rpm : 500
rack travel mm : 11.45
Tolerance mm : ± 0.10

Rated speed rpm : 1000
rack travel mm : 14.25
Tolerance mm : ± 0.15

Rated speed rpm : 700
rack travel mm : 12.70
Tolerance mm : ± 0.15

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1300
Pressure hPa : 900
rack travel mm : 14.35
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1300
rack travel mm : 9.20
Tolerance mm : ± 0.10

Rated speed rpm : 1300
Pressure hPa : 400
rack travel mm : 13.20
Tolerance mm : ± 0.15

Pressure hPa : 250
rack travel mm : 10.30
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 240
Check speed 1/min : < 270

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900
Rated speed rpm : 800
Del. quantity cm³/1000 strokes : 140.0
Tolerance cm³/1000 strokes : ± 2.0
Check tolerance cm³/1000S. : ± 5.0
Spreed Tolerance cm³/1000 strokes : 6.0
Check tolerance cm³/1000S. : 9.0

Aneroid pressure hPa : 900
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 118.0
Tolerance cm³/1000 strokes : ± 2.0
Check tolerance cm³/1000S. : ± 5.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 69.0
Tolerance cm³/1000 strokes : ± 1.0
Check tolerance cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 13.60
Rated speed rpm : 1345
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity
cm³/1000 strokes : 85.0
Tolerance
cm³/1000 strokes : ± 7.0
Check tolerance
cm³/1000S. : ± 10.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 31.05.94
Test oil : ISO 4113
Combination No. : 0401446151
Injection pump
Pump designation : PE6R120/72ORS1507
EP type number : 0411426004

Governor
Governor design. : RQV300...950R5K
Governor no. : 0421415005

Cust. part No. : 11032038-P02

Customer-spec. information
Customer : VME
Motor : TD164 KAE
Power KW : 503.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2417413078

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.45
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 875

Rack travel in mm : 14.25
Tolerance mm : + 0.05

Del. quantity
cm3/1000 strokes : 382.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.09
Tolerance mm : ± 0.25

Rated speed rpm : 978
guide sleeve
travel mm : 9.28
Tolerance mm : ± 0.25

Rated speed rpm : 705
guide sleeve
travel mm : 6.07
Tolerance mm : ± 0.25

Rated speed rpm : 316
guide sleeve
travel mm : 2.30
Tolerance mm : ± 0.25

Rated speed rpm : 366
guide sleeve
travel mm : 2.90
Tolerance mm : ± 0.25

Rated speed rpm : 450
guide sleeve
travel mm : 3.68
Tolerance mm : ± 0.25

Rated speed rpm : 1240
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1100

Rack travel in mm : 8.50
Tolerance mm : ± 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 875
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 382.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

RATED SPEED

control lever
position degree : 63.0
tolerance degree : ± 4.0

control lever
position degree : 118.0
tolerance degree : ± 4.0

rack travel mm : 13.25
Rated speed rpm : 965
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1080
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1150

LOW IDLE

control lever
position degree : 78.0
tolerance degree : ± 4.0

control lever
position degree : 23.0

tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : ± 0.30

Rated speed rpm : 200
CRT mm min. : > 8.40

Rated speed rpm : 390

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 13.40
Tolerance mm : ± 0.10

Rated speed rpm : 950
rack travel mm : 13.95
Tolerance mm : ± 0.15

Rated speed rpm : 350
rack travel mm : 12.00
Tolerance mm : ± 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 875
Pressure hPa : 1500
rack travel mm : 14.25
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 875
rack travel mm : 10.10
Tolerance mm : ± 0.20

Rated speed rpm : 875

Pressure hPa : 980
rack travel mm : 3.70
Tolerance mm : ± 0.10

Pressure hPa : 410
rack travel mm : 0.25
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1500
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 407.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 9.0
Check tolerance
cm³/1000S. : 13.0

Aneroid pressure
hPa : -
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 256.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.25
Rated speed rpm : 965
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.10
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 220.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.05.94
Test oil : ISO 4113

Combination No. : 0402646626

Injection pump
Pump designation : PE6P120A320RS7299
EP type number : 0412626885

Governor
Governor design. : RQV275...1000PA1076K
Governor no. : 0421815357

Cust. part No. : 1280160

Customer spec. information
Customer : DAF
Motor : WS 268 M
Power KW : 268.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity
min. l/h : 160
Tolerance l/h : + 20.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

H18

Test lines : 1680750089
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 4.85
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 13.55
Tolerance mm : + 0.05

<hr/>	
Del. quantity	
cm ³ /1000 strokes	: 250.0
<hr/>	
Tolerance	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
2nd speed rpm	: 275
<hr/>	
Rack travel in mm	: 5.60
Tolerance mm	: ± 0.10
Del. quantity	
cm ³ /1000 strokes	: 17.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 6.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve	
travel mm	: 2.14
Tolerance mm	: ± 0.15
<hr/>	
Rated speed rpm	: 1045
guide sleeve	
travel mm	: 9.82
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 689
guide sleeve	
travel mm	: 6.43
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 284
guide sleeve	
travel mm	: 2.27
Tolerance mm	: ± 0.25

Rated speed rpm	: 334
guide sleeve	
travel mm	: 3.17
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 390
guide sleeve	
travel mm	: 3.79
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1310
guide sleeve	
travel mm	: 13.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

control lever	
position degree	: - 1
Rated speed rpm	: 1130
<hr/>	
Rack travel in mm	: 12.60
Tolerance mm	: ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 980
Aneroid pressure	
hPa	: -
Del. quantity	
cm ³ /1000 strokes	: 250.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 120.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 12.55
Rated speed rpm	: 1042
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1160
Tolerance 1/min	: ± 15

rack travel mm : 0.70
Tolerance mm : ± 0.70
Rated speed rpm : 1275

LOW IDLE

control lever
position degree : 76.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 4.80
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : ± 20

Rated speed rpm : 175
CRT mm min. : > 7.50

TORQUE CONTROL

Rated speed rpm : 980
rack travel mm : 13.55
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 13.05
Tolerance mm : ± 0.05

Rated speed rpm : 825
rack travel mm : 13.30
Tolerance mm : ± 0.10

Rated speed rpm : 600
rack travel mm : 12.10
Tolerance mm : ± 0.10

Rated speed rpm : 500
rack travel mm : 11.70
Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 980
Pressure hPa : 1500
rack travel mm : 13.55
Tolerance mm : ± 0.05

H2O

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 980
rack travel mm : 8.50
Tolerance mm : ± 0.10

Rated speed rpm : 980

Pressure hPa : 720
rack travel mm : 12.25
Tolerance mm : ± 0.05

Pressure hPa : 360
rack travel mm : 9.80
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 263.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.55
Rated speed rpm : 1042
Tolerance 1/min : ± 5

LOW IDLE

Rated speed rpm : 275
rack travel mm : 5.60
Tolerance mm : \pm 0.10
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.05.94
Test oil : ISO 4113

Combination No. : 0402646978

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQ300/950PA1031-1
Governor no. : 0421801643

Cust. part No. : 0230742002

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

H22

Test lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.00
Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 231.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Speed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.20
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.19
Tolerance mm : \pm 0.10

Rated speed rpm : 1004
guide sleeve
travel mm : 6.36
Tolerance mm : \pm 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

Rated speed rpm : 425

guide sleeve
travel mm : 5.28
Tolerance mm : \pm 0.10

Rated speed rpm : 500
guide sleeve
travel mm : 6.00
Tolerance mm : \pm 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : \pm 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 231.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Speed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 95.0
tolerance degree : \pm 4.0

rack travel mm : 12.00
Rated speed rpm : 998
Tolerance 1/min : \pm 8

rack travel mm : 4.00
Rated speed rpm : 1075
Tolerance 1/min : \pm 15

rack travel mm : 0.75
Tolerance mm : \pm 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 75.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 410
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 9.00

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.00
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 13.00
Tolerance mm : ± 0.05

Rated speed rpm : 400
rack travel mm : 11.55
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 13.00
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.35
Tolerance mm : ± 0.15

Rated speed rpm : 400

Pressure hPa : 400
rack travel mm : 11.55
Tolerance mm : ± 0.10

Pressure hPa : 600

H24

rack travel mm : 12.50
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 229.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 400
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 998
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.05.94
Test oil : ISO 4113
Combination No. : 0403476136
Injection pump
Pump designation : PES6MW100/32ORS1237
EP type number : 0413406233
Governor
Governor design. : RSV300...1100MW1A353
Governor no. : 0420085223

Cust. part No. :

Customer-spec. information
Customer : VME
Motor : TD61GD
Power KW : 92.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test Lines : 1680750014
Outside diameter : 6.0
x inside diameter : 2.0

H26

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.05
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1100
Rack travel in mm : 13.20
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 106.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed
Tolerance
cm³/1000 strokes : 3.5

Check tolerance cm ³ /1000S.	:	6.0
Del. quantity cm ³ /1000 strokes	:	6.0
Tolerance cm ³ /1000 strokes	:	+ 2.0
Check tolerance cm ³ /1000S.	:	+ 4.5
Spreed Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever position degree	:	- 3
Rated speed rpm	:	800
Rack travel in mm	:	0.65
Tolerance mm	:	+ 0.35
governor spring pre-tension click setting x	:	4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1100
Aneroid pressure hPa	:	-
Del. quantity cm ³ /1000 strokes	:	106.0
Tolerance cm ³ /1000 strokes	:	+ 1.0
Check tolerance cm ³ /1000S.	:	+ 3.0
Spreed Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	6.0

RATED SPEED

control lever position degree	:	110.0
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H27

tolerance degree	:	+ 4.0
rack travel mm	:	12.20
Rated speed rpm	:	1140
Tolerance 1/min	:	+ 5
rack travel mm	:	4.00
Rated speed rpm	:	1195
Tolerance 1/min	:	+ 15
rack travel mm	:	1.00
Tolerance mm	:	+ 0.70
Rated speed rpm	:	1250

LOW IDLE

control lever position degree	:	75.0
tolerance degree	:	+ 4.0

Testing:

Rated speed rpm	:	315
rack travel mm	:	6.50
Tolerance mm	:	+ 0.10
Rated speed rpm	:	100
CRT mm min.	:	> 19.00

TORQUE CONTROL

Rated speed rpm	:	1100
rack travel mm	:	13.20
Tolerance mm	:	+ 0.05
Rated speed rpm	:	500
rack travel mm	:	13.90
Tolerance mm	:	+ 0.10
Rated speed rpm	:	660
rack travel mm	:	13.50
Tolerance mm	:	+ 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	-
Rated speed rpm	:	500
Del. quantity cm ³ /1000 strokes	:	107.0
Tolerance cm ³ /1000 strokes	:	+ 1.5

Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.5
Check tolerance
cm³/1000S. : 7.0

BREAKAWAY

Rack travel in mm : 12.20
Rated speed rpm : 1140
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : ± 1.00
Del. quantity
cm³/1000 strokes : 90.0
Tolerance
cm³/1000 strokes : ± 7.0
Check tolerance
cm³/1000S. : ± 10.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 6.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.05.94
Test oil : ISO 4113
Combination No. : 0403446316
Injection pump
Pump designation : PES6MW100/320RS1216
: -1
EP type number : 0413406223
Governor
Governor design. : RQV350...1175MW113
: -2
Governor no. : 0420083248
Cust. part No. :

Customer-spec. information
Customer : RVI
Motor : MIDR 060226 X
Power KW : 166.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2417413033
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test Lines : 1680750008
Outside diameter : 6.0

J01

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.25
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 13.00
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1175
Rack travel in mm : 13.95
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 123.0
Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : +- 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 30.0

Tolerance
cm³/1000 strokes : +- 2.0

Check tolerance
cm³/1000S. : +- 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 0.86
Tolerance mm : +- 0.25

Rated speed rpm : 1266
guide sleeve
travel mm : 7.11
Tolerance mm : +- 0.25

Rated speed rpm : 929
guide sleeve
travel mm : 5.38
Tolerance mm : +- 0.25

Rated speed rpm : 468
guide sleeve
travel mm : 2.46
Tolerance mm : +- 0.25

Rated speed rpm : 518
guide sleeve
travel mm : 3.03
Tolerance mm : +- 0.25

Rated speed rpm : 620
guide sleeve
travel mm : 3.63
Tolerance mm : +- 0.25

Rated speed rpm : 1800
guide sleeve
travel mm : 11.50
Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1460

Rack travel in mm : 16.50
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1175
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 123.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 305.0
tolerance degree : +- 4.0

rack travel mm : -1.00
Rated speed rpm : 1235
Tolerance 1/min : +- 5

rack travel mm : -9.90
Rated speed rpm : 1465
Tolerance 1/min : +- 15

rack travel mm : -13.50
Tolerance mm : +- 0.50
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 248.0

tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -7.80
Tolerance mm : ± 0.20

Rated speed rpm : 200

CRT mm min. : > -7.00

TORQUE CONTROL

Rated speed rpm : 1175

Rated speed rpm : 700

Rated speed rpm : 700
rack travel mm : -5.50
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -3.60
Tolerance mm : ± 0.30

Rated speed rpm : 500

Pressure hPa : 240
rack travel mm : -2.85
Tolerance mm : ± 0.15

Pressure hPa : 520
rack travel mm : -0.75
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 260
Check speed 1/min : < 280

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 131.5
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 58.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 7.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 68.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1235
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : ± 0.75
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 13.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 30.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Speed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.05.94
Test oil : ISO 4113
Combination No. : 0403446318
Injection pump
Pump designation : PES6MW100/32ORS1214
: -1
EP type number : 0413406224
Governor
Governor design. : RQV275...1250MW115
: -1K
Governor no. : 0420083992
Cust. part No. :

Customer-spec. information
Customer : RVI
Motor : MIDR 060226 V
Power KW : 129.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2417413033
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test Lines : 1680750008
Outside diameter : 6.0

J05

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 18.00
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.15

Rack travel in mm : 13.15
Tolerance mm : ± 0.05
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	:	113.0
<hr/>		
Tolerance cm ³ /1000 strokes	:	+ 1.0
<hr/>		
Check tolerance cm ³ /1000S.	:	+ 3.0
<hr/>		
Spread Tolerance cm ³ /1000 strokes	:	3.5
<hr/>		
Check tolerance cm ³ /1000S.	:	6.0
<hr/>		
Del. quantity cm ³ /1000 strokes	:	22.0
Tolerance cm ³ /1000 strokes	:	+ 2.0
Check tolerance cm ³ /1000S.	:	+ 4.5
Spread Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	5.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm guide sleeve travel mm	:	275
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm guide sleeve travel mm	:	1344
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm guide sleeve travel mm	:	924
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm guide sleeve travel mm	:	389
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm guide sleeve travel mm	:	439
Tolerance mm	:	+ 0.25

Rated speed rpm guide sleeve travel mm	:	560
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm guide sleeve travel mm	:	1650
Tolerance mm	:	+ 0.50

GUIDE SLEEVE POSITION

control lever position degree	:	- 1
Rated speed rpm	:	1350
<hr/>		
Rack travel in mm	:	16.50
Tolerance mm	:	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm Aneroid pressure hPa	:	1250
Del. quantity cm ³ /1000 strokes	:	113.0
Tolerance cm ³ /1000 strokes	:	+ 1.0
Check tolerance cm ³ /1000S.	:	+ 3.0
Spread Tolerance cm ³ /1000 strokes	:	3.5
Check tolerance cm ³ /1000S.	:	6.0

RATED SPEED

control lever position degree	:	300.0
tolerance degree	:	+ 4.0
<hr/>		
rack travel mm Rated speed rpm	:	-1.00
Tolerance 1/min	:	+ 5
<hr/>		
rack travel mm Rated speed rpm	:	-9.10
Tolerance 1/min	:	+ 15
<hr/>		
rack travel mm Tolerance mm	:	-12.60
Rated speed rpm	:	+ 0.50
	:	1600

LOW IDLE

control lever
position degree : 242.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -7.50
Tolerance mm : ± 0.20

Rated speed rpm : 200

CRT mm min. : > -6.90

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 13.15
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : -0.90
Tolerance mm : ± 0.05

Rated speed rpm : 700
rack travel mm : -4.50
Tolerance mm : ± 0.10

Rated speed rpm : 350
rack travel mm : -1.60
Tolerance mm : ± 0.40

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 1250
rack travel mm : -1.90
Tolerance mm : ± 0.20

Rated speed rpm : 1250

Pressure hPa : 120
rack travel mm : -1.40
Tolerance mm : ± 0.15

J07

Pressure hPa : 240
rack travel mm : -0.50
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 230
Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 110.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 65.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 7.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 90.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1305
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : \pm 0.75
Del. quantity
cm³/1000 strokes : 105.0
Tolerance
cm³/1000 strokes : \pm 10.0
Check tolerance
cm³/1000S. : \pm 13.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : \pm 2.0
Check tolerance
cm³/1000S. : \pm 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.0

Check tolerance
 cm³/1000S. : 7.5
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 0.91
 Tolerance mm : + 0.25

Rated speed rpm : 1354
 guide sleeve
 travel mm : 7.77
 Tolerance mm : + 0.25

Rated speed rpm : 1150
 guide sleeve
 travel mm : 5.95
 Tolerance mm : + 0.25

Rated speed rpm : 629
 guide sleeve
 travel mm : 3.15
 Tolerance mm : + 0.25

Rated speed rpm : 679
 guide sleeve
 travel mm : 3.45
 Tolerance mm : + 0.25

Rated speed rpm : 820
 guide sleeve
 travel mm : 4.09
 Tolerance mm : + 0.25

Rated speed rpm : 1596
 guide sleeve
 travel mm : 12.00
 Tolerance mm : + 0.25

Rated speed rpm : 1690
 guide sleeve
 travel mm : 13.50

Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1510

Rack travel in mm : 16.50
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 1400
 Del. quantity
 cm³/1000 strokes : 126.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

RATED SPEED

control lever
 position degree : 116.0
 tolerance degree : + 4.0

rack travel mm : 12.90
 Rated speed rpm : 1345
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1465
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1550

LOW IDLE

control lever
 position degree : 71.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.90
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 4.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 13.90
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 13.90
Tolerance mm : ± 0.10

Rated speed rpm : 600
rack travel mm : 13.90
Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1400
rack travel mm : 13.90
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.10
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 800
rack travel mm : 13.10
Tolerance mm : ± 0.10

Pressure hPa : 550
rack travel mm : 11.60
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 200
Check speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 124.0

Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : 1400
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 126.0

Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 67.0

Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 12.90
Rated speed rpm : 1345
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.06.94
Test oil : ISO 4113
Combination No. : 0403244033
Injection pump
Pump designation : PES4MW100/72ORS1519
 : -2
EP type number : 0413204017
Governor
Governor design. : RQV300...1300MW132
 : -1
Governor no. : 0420083292
Cust. part No. : 0240748202

Customer-spec. information
Customer : MB-NFZ
Motor : OM364LA
Power kW : 103.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 21.00
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 13.90
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 126.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
 cm³/1000S. : 7.5

 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
 guide sleeve
 travel mm : 0.91
 Tolerance mm : ± 0.25

 Rated speed rpm : 1354
 guide sleeve
 travel mm : 7.77
 Tolerance mm : ± 0.25

 Rated speed rpm : 1150
 guide sleeve
 travel mm : 5.95
 Tolerance mm : ± 0.25

 Rated speed rpm : 629
 guide sleeve
 travel mm : 3.15
 Tolerance mm : ± 0.25

 Rated speed rpm : 679
 guide sleeve
 travel mm : 3.45
 Tolerance mm : ± 0.25

 Rated speed rpm : 820
 guide sleeve
 travel mm : 4.09
 Tolerance mm : ± 0.25

 Rated speed rpm : 1596
 guide sleeve
 travel mm : 12.00
 Tolerance mm : ± 0.25

 Rated speed rpm : 1690
 guide sleeve
 travel mm : 13.50

Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1510

 Rack travel in mm : 16.50
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
 Aneroid pressure
 hPa : 1400
 Del. quantity
 cm³/1000 strokes : 126.0
 Tolerance
 cm³/1000 strokes : ± 1.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 7.5

RATED SPEED

control lever
 position degree : 116.0
 tolerance degree : ± 4.0

 rack travel mm : 12.90
 Rated speed rpm : 1345
 Tolerance 1/min : ± 5

 rack travel mm : 4.00
 Rated speed rpm : 1465
 Tolerance 1/min : ± 15

 rack travel mm : 0.50
 Tolerance mm : ± 0.50
 Rated speed rpm : 1550

LOW IDLE

control lever
 position degree : 71.0
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.90
Tolerance mm : ± 0.10

Rated speed rpm : 200
CRT mm min. : > 4.50

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 13.90
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 13.90
Tolerance mm : ± 0.10

Rated speed rpm : 600
rack travel mm : 13.90
Tolerance mm : ± 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1400
rack travel mm : 13.90
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.10
Tolerance mm : ± 0.10

Rated speed rpm : 500
Pressure hPa : 600
rack travel mm : 13.10
Tolerance mm : ± 0.10

Pressure hPa : 350
rack travel mm : 11.60
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 200
Check speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1400
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 124.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : 1400
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 126.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 67.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 12.90
Rated speed rpm : 1345
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.06.94
Test oil : ISO 4113
Combination No. : 0403446302
Injection pump
Pump designation : PES6MW100/72ORS1131
EP type number : 0413406123
Governor
Governor design. : RQV300...1300MW50
 : -24
Governor no. : 0420083270
Cust. part No. : 0220745202

Customer-spec. information
Customer : MB-NFZ
Motor : OM 366 A
Power KW : 121.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1688901101
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680715089
Outside diameter : 8.0

J17

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.75
Tolerance mm : ± 0.05
test only : ± 0.05
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
 : 4
Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300
Rack travel in mm : 10.95
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 89.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Speed

Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

Del. quantity
cm³/1000 strokes : 12.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 4.5

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1350

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300
Aneroid pressure
hPa : 700

Del. quantity
cm³/1000 strokes : 89.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spread
Tolerance
cm³/1000 strokes : 3.5

Check tolerance
cm³/1000S. : 6.0

RATED SPEED

control lever
position degree : 112.0
tolerance degree : ± 4.0

rack travel mm : 9.95
Rated speed rpm : 1345
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1440
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1500

LOW IDLE

control lever
position degree : 76.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 6.20
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 8.00

TORQUE CONTROL

Rated speed rpm : 1300
rack travel mm : 10.95
Tolerance mm : ± 0.05

Rated speed rpm : 750
rack travel mm : 11.55
Tolerance mm : ± 0.05

Rated speed rpm : 1100
rack travel mm : 11.20
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 11.55
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -

Rated speed rpm : 500
rack travel mm : 9.70
Tolerance mm : \pm 0.10

Rated speed rpm : 500

Pressure hPa : 300
rack travel mm : 11.15
Tolerance mm : \pm 0.15

Pressure hPa : 200
rack travel mm : 10.25
Tolerance mm : \pm 0.05

START CUT-OUT

Rated speed rpm : < 220
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 700
Rated speed rpm : 750
Del. quantity cm³/1000 strokes : 86.0
Tolerance cm³/1000 strokes : \pm 1.5
Check tolerance cm³/1000S. : \pm 4.0
Spreed Tolerance cm³/1000 strokes : 5.0
Check tolerance cm³/1000S. : 7.0

Aneroid pressure hPa : -
Rated speed rpm : 500
Del. quantity cm³/1000 strokes : 48.0
Tolerance cm³/1000 strokes : \pm 1.0
Check tolerance cm³/1000S. : \pm 3.0

BREAKAWAY

Rack travel in mm : 9.95
Rated speed rpm : 1345
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity cm³/1000 strokes : 105.0
Tolerance cm³/1000 strokes : \pm 5.0
Check tolerance cm³/1000S. : \pm 8.0

LOW IDLE

Del. quantity cm³/1000 strokes : 12.0
Tolerance cm³/1000 strokes : \pm 2.0
Check tolerance cm³/1000S. : \pm 4.5
Spreed Tolerance cm³/1000 strokes : 3.5
Check tolerance cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.07.94
Test oil : ISO 4113
Combination No. : 0403486106
Injection pump
Pump designation : PES6MW100/321RS1232
EP type number : 0413406226
Governor
Governor design. : RSV300...1150MWOA343
: -2
Governor no. : 0420085210
Cust. part No. : 3-7262

Customer-spec. information
Customer : MAN
Motor : D0826LE 523
Power KW : 154.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 1417413047
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : +- 1.5
Test lines : 1680750008
Outside diameter : 6.0

J20

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : +- 1.0
Prestroke mm : 3.55
Tolerance mm : +- 0.05
test only : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.50
Check
tolerance °NW : +- 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 13.05
Tolerance mm : +- 0.05
Del. quantity
cm³/1000 strokes : 166.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 4.0
<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes	: 4.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 7.5
<hr/>	
Del. quantity	
cm ³ /1000 strokes	: 15.0
Tolerance	
cm ³ /1000 strokes	: ± 2.0
Check tolerance	
cm ³ /1000S.	: ± 4.5
Spreed	
Tolerance	
cm ³ /1000 strokes	: 3.5
Check tolerance	
cm ³ /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree	: - 3
Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.65
Tolerance mm	: ± 0.35
<hr/>	
governor spring	
pre-tension	
click setting x	: 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1150
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm ³ /1000 strokes	: 166.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Spreed	

Tolerance	
cm ³ /1000 strokes	: 4.0
Check tolerance	
cm ³ /1000S.	: 7.5

RATED SPEED

control lever	
position degree	: 104.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 12.00
Rated speed rpm	: 1205
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1305
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 1.00
Tolerance mm	: ± 0.70
Rated speed rpm	: 1400
<hr/>	
rack travel mm	: 4.00

LOW IDLE

control lever	
position degree	: 77.0
tolerance degree	: ± 4.0

Testing:

Rated speed rpm	: 300
rack travel mm	: 5.50
Tolerance mm	: ± 0.10
<hr/>	
rack travel mm	: 2.00
Rated speed rpm	: 100
<hr/>	
CRT mm min.	: > 19.00

TORQUE CONTROL

Rated speed rpm	: 1150
rack travel mm	: 13.05
Tolerance mm	: ± 0.05
<hr/>	
Rated speed rpm	: 925
rack travel mm	: 13.40
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 600
rack travel mm	: 13.70

Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 13.70
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.45
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 750
rack travel mm : 12.35
Tolerance mm : ± 0.15

Pressure hPa : 150
rack travel mm : 9.75
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1200
Rated speed rpm : 925
Del. quantity
cm³/1000 strokes : 162.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

Aneroid pressure
hPa : 1200
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 76.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1205
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.09.94
Test oil : ISO 4113
Combination No. : 0402046865A
Injection pump
Pump designation : PES6P120A320LS3321
EP type number : 0412026766

Governor
Governor design. : RQ275...950PA1085
Governor no. : 0421801691

Cust. part No. :

Customer-spec. information
Customer : RABA
Motor : D10-UTS184
Power KW : 184.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : +- 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0

J23

x length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : +- 1.0

Prestroke mm : 4.45
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300

Tolerance : +- 0.30
Check
tolerance °NW : +- 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.05
Tolerance mm : +- 0.05

Del. quantity
cm3/1000 strokes : 197.0

<hr/>	
Tolerance	
cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: ± 4.0
<hr/>	
Speed	
Tolerance	
cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm ³ /1000S.	: 9.0
<hr/>	
2nd speed rpm	: 275
<hr/>	
Rack travel in mm	: 9.10
Tolerance mm	: ± 0.30
Del. quantity	
cm ³ /1000 strokes	: 22.0
Tolerance	
cm ³ /1000 strokes	: ± 3.0
Check tolerance	
cm ³ /1000S.	: ± 6.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 8.0
Check tolerance	
cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve	
travel mm	: 2.26
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 1020
guide sleeve	
travel mm	: 6.35
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 950
guide sleeve	
travel mm	: 6.00
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 369
guide sleeve	
travel mm	: 4.64
Tolerance mm	: ± 0.10
<hr/>	
Rated speed rpm	: 460
guide sleeve	
travel mm	: 6.00

Tolerance mm	: ± 0.10
Rated speed rpm	: 1190
guide sleeve	
travel mm	: 11.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 500
Rack travel in mm	: 20.00
Tolerance mm	: ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 600
Aneroid pressure	
hPa	: -
Del. quantity	
cm ³ /1000 strokes	: 197.0
Tolerance	
cm ³ /1000 strokes	: ± 1.0
Check tolerance	
cm ³ /1000S.	: ± 4.0
Speed	
Tolerance	
cm ³ /1000 strokes	: 5.0
Check tolerance	
cm ³ /1000S.	: 9.0

RATED SPEED

control lever	
position degree	: 36.0
tolerance degree	: ± 4.0
<hr/>	
control lever	
position degree	: 98.0
tolerance degree	: ± 4.0
<hr/>	
rack travel mm	: 13.05
Rated speed rpm	: 1012
Tolerance 1/min	: ± 5
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rack travel mm	: 4.00
Rated speed rpm	: 1100
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1200

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

control lever
position degree : 11.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275
rack travel mm : 5.80
Tolerance mm : ± 0.10

Rated speed rpm : 355
Tolerance 1/min : ± 20

Rated speed rpm : 175

CRT mm min. : > 8.00

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 14.05
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 14.05
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 11.80
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 380
rack travel mm : 12.20
Tolerance mm : ± 0.20

Pressure hPa : 590
rack travel mm : 13.50
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 198.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 116.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.05
Rated speed rpm : 1012
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 154.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : 9.10
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spread

Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.09.94
Test oil : ISO 4113

Combination No. : 0402646611

Injection pump
Pump designation : PE6P120A72ORS7188
 : -10
EP type number : 0412626924

Governor
Governor design. : RQV200...950PA725-9
Governor no. : 0421813988

Cust. part No. : 1340660

Customer-spec. information
Customer : SCANIA
Motor : DSC 11 39

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 250
Tolerance l/h : ± 20.0

Test nozzle holde
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45
 Tolerance mm : + 0.05

Del. quantity
 cm³/1000 strokes : 239.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 8.0

Check tolerance
 cm³/1000S. : 12.0

2nd speed rpm : 250

Rack travel in mm : 4.70
 Tolerance mm : + 0.30
 Del. quantity
 cm³/1000 strokes : 16.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1250

Rack travel in mm : 10.50
 Tolerance mm : + 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 239.0

J28

Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0

RATED SPEED

control lever
 position degree : 59.0
 tolerance degree : + 4.0

control lever
 position degree : 113.0
 tolerance degree : + 4.0

rack travel mm : 12.40
 Rated speed rpm : 995
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1210
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1350

LOW IDLE

control lever
 position degree : 65.0
 tolerance degree : + 4.0

control lever
 position degree : 10.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 250
 rack travel mm : 4.70
 Tolerance mm : + 0.10

Rated speed rpm : 150

CRT mm min. : > 6.00

Rated speed rpm : 250

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 13.45
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.45
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.40
Tolerance mm : ± 0.20

Rated speed rpm : 500
rack travel mm : 11.00
Tolerance mm : ± 0.15

Pressure hPa : 440
rack travel mm : 12.05
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 224.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

K01

Rack travel in mm : 12.40
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.40
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 170.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.70
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.09.94
Test oil : ISO 4113
Combination No. : 0402646616
Injection pump
Pump designation : PE6P120A320LS7278
EP type number : 0412626880
Governor
Governor design. : RQV325...1000PA1058
Governor no. : 0421814047

Cust. part No. :

Customer-spec. information
Customer : RBOS-CS
Motor : M640S
Power KW : 242.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0
x inside diameter : 3.0

K02

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 5.00
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000
Rack travel in mm : 13.45
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 233.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

Del. quantity
cm³/1000 strokes : 24.0

Tolerance
cm³/1000 strokes : +- 3.0

Check tolerance
cm³/1000S. : +- 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 1.55
Tolerance mm : +- 0.25

Rated speed rpm : 1056
guide sleeve
travel mm : 8.66
Tolerance mm : +- 0.25

Rated speed rpm : 764
guide sleeve
travel mm : 5.77
Tolerance mm : +- 0.25

Rated speed rpm : 404
guide sleeve
travel mm : 2.41
Tolerance mm : +- 0.25

Rated speed rpm : 500
guide sleeve
travel mm : 3.35
Tolerance mm : +- 0.25

Rated speed rpm : 1270
guide sleeve
travel mm : 11.50

K03

Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1100

Rack travel in mm : 12.30
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 233.0

Tolerance
cm³/1000 strokes : +- 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 63.0
tolerance degree : +- 4.0

control lever
position degree : 117.0
tolerance degree : +- 4.0

rack travel mm : 12.45
Rated speed rpm : 1045
Tolerance 1/min : +- 5

rack travel mm : 4.00
Rated speed rpm : 1160
Tolerance 1/min : +- 15

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 64.0
tolerance degree : ± 4.0

control lever
position degree : 9.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 5.10
Tolerance mm : ± 0.30

rack travel mm : 2.00
Rated speed rpm : 485
Tolerance 1/min : ± 30

Rated speed rpm : 225
CRT mm min. : > 6.70

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.45
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 8.50
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 520
rack travel mm : 10.60
Tolerance mm : ± 0.25

Pressure hPa : 1000
rack travel mm : 13.00
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500

K04

Del. quantity
cm3/1000 strokes : 143.0
Tolerance
cm3/1000 strokes : ± 2.0
Check tolerance
cm3/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.45
Rated speed rpm : 1045
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 310.0
Tolerance
cm3/1000 strokes : ± 20.0
Check tolerance
cm3/1000S. : ± 24.0

LOW IDLE

Del. quantity
cm3/1000 strokes : 24.0
Tolerance
cm3/1000 strokes : ± 3.0
Check tolerance
cm3/1000S. : ± 6.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.09.94
Test oil : ISO 4113
Combination No. : 0402646623
Injection pump
Pump designation : PE6P120A320RS7288
EP type number : 0412626882
Governor
Governor design. : RQV250...900PA1069
: -1
Governor no. : 0421814070
Cust. part No. : 866141-P03 + E
: -KONTR

Customer-spec. information
Customer : PENTA
Motor : TAD 1030P

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 2417413046
Inlet press. bar : 2.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750015
Outside diameter : 6.0

K05

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 290.0

Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
 cm³/1000S. : + 4.0

Spreed
 Tolerance
 cm³/1000 strokes : 6.0

Check tolerance
 cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
 guide sleeve
 travel mm : 1.12
 Tolerance mm : + 0.25

Rated speed rpm : 949
 guide sleeve
 travel mm : 7.39
 Tolerance mm : + 0.25

Rated speed rpm : 657
 guide sleeve
 travel mm : 5.07
 Tolerance mm : + 0.25

Rated speed rpm : 315
 guide sleeve
 travel mm : 1.98
 Tolerance mm : + 0.25

Rated speed rpm : 365
 guide sleeve
 travel mm : 2.63
 Tolerance mm : + 0.25

Rated speed rpm : 420
 guide sleeve
 travel mm : 3.17
 Tolerance mm : + 0.25

Rated speed rpm : 1290
 guide sleeve
 travel mm : 11.50
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
 position degree : - 1
 Rated speed rpm : 1150

Rack travel in mm : 9.00
 Tolerance mm : + 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
 Del. quantity
 cm³/1000 strokes : 290.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 6.0
 Check tolerance
 cm³/1000S. : 10.0

RATED SPEED

control lever
 position degree : 119.0
 tolerance degree : + 4.0

rack travel mm : 12.45
 Rated speed rpm : 935
 Tolerance 1/min : + 5

rack travel mm : 4.00
 Rated speed rpm : 1075
 Tolerance 1/min : + 15

rack travel mm : 0.50
 Tolerance mm : + 0.50
 Rated speed rpm : 1150

LOW IDLE

control lever
 position degree : 80.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 250
 rack travel mm : 7.70
 Tolerance mm : + 0.30

Rated speed rpm : 150

CRT mm min. : > 9.00
Rated speed rpm : 350

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.45
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 300
rack travel mm : 10.30
Tolerance mm : ± 0.10

Pressure hPa : 1100
rack travel mm : 13.15
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 176.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.45
Rated speed rpm : 935
Tolerance 1/min : ± 5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 01.09.94
Test oil : ISO 4113

Combination No. : 0402746957

Injection pump
Pump designation : PES6P120A720RS7292
EP type number : 0412726897

Governor
Governor design. : RQV350...1150PA1074
 : -2K
Governor no. : 0421815367

Cust. part No. : 0250741002

Customer-spec. information

Customer : MB-NFZ
Motor : OM366LA
Power KW : 157.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 100
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.00
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

°NW after s.o.d. : 3.0

S.o.d. blocking
Barrel no. : 1

°NW after s.o.d. : 3.0

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 13.50
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 272.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 350

Rack travel in mm : 7.30
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.84
Tolerance mm : ± 0.25

Rated speed rpm : 1208
guide sleeve
travel mm : 9.41
Tolerance mm : ± 0.25

Rated speed rpm : 836
guide sleeve
travel mm : 5.58
Tolerance mm : ± 0.25

Rated speed rpm : 367
guide sleeve
travel mm : 1.96
Tolerance mm : ± 0.25

Rated speed rpm : 417
guide sleeve
travel mm : 2.46
Tolerance mm : ± 0.25

Rated speed rpm : 510
guide sleeve
travel mm : 3.11
Tolerance mm : ± 0.25

Rated speed rpm : 1480
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1310

Rack travel in mm : 12.50
Tolerance mm : ± 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 272.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 112.0
tolerance degree : ± 4.0

rack travel mm : 12.50
Rated speed rpm : 1195

Tolerance 1/min : + 5
 rack travel mm : 4.00
 Rated speed rpm : 1310
 Tolerance 1/min : + 15
 rack travel mm : 0.70
 Tolerance mm : + 0.70
 Rated speed rpm : 1400

LOW IDLE

control lever
 position degree : 65.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 350
 rack travel mm : 5.00
 Tolerance mm : + 0.10
 Rated speed rpm : 250
 CRT mm min. : > 6.50
 Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1150
 rack travel mm : 13.50
 Tolerance mm : + 0.05
 Rated speed rpm : 950
 rack travel mm : 13.45
 Tolerance mm : + 0.10
 Rated speed rpm : 750
 rack travel mm : 12.80
 Tolerance mm : + 0.10
 Rated speed rpm : 600
 rack travel mm : 12.70
 Tolerance mm : + 0.10

ANEROID/ALTITUDE
 COMPENSATOR TEST

SETTING

Rated speed rpm : 1150
 Pressure hPa : 1500
 rack travel mm : 13.50
 Tolerance mm : + 0.05

K10

MEASUREMENT

Pressure hPa : -
 Rated speed rpm : 1150
 rack travel mm : 10.00
 Tolerance mm : + 0.15
 Rated speed rpm : 1150
 Pressure hPa : 800
 rack travel mm : 12.55
 Tolerance mm : + 0.05
 Pressure hPa : 250
 rack travel mm : 10.50
 Tolerance mm : + 0.15

START CUT-OUT

Rated speed rpm : < 270
 Check
 speed 1/min : < 290

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
 hPa : 1500
 Rated speed rpm : 750
 Del. quantity
 cm³/1000 strokes : 269.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 5.0
 Spreed
 Tolerance
 cm³/1000 strokes : 8.0
 Check tolerance
 cm³/1000S. : 12.0
 Aneroid pressure
 hPa : 1500
 Rated speed rpm : 600
 Del. quantity
 cm³/1000 strokes : 274.0
 Tolerance
 cm³/1000 strokes : + 3.0
 Check tolerance
 cm³/1000S. : + 6.0
 Aneroid pressure
 hPa : -
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 140.0
 Tolerance
 cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.50
Rated speed rpm : 1195
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 13.50
Tolerance mm : +- 0.20
Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : +- 15.0
Check tolerance
cm³/1000S. : +- 19.0

LOW IDLE

Rated speed rpm : 350
rack travel mm : 7.30
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 31.08.94
Test oil : ISO 4113
Combination No. : 0402040700
Injection pump
Pump designation : PES12P120A920RS3335
EP type number : 0412020701
Governor
Governor design. : RQV350...1400PA1145
Governor no. : 0421814092

Cust. part No. :

Customer-spec. information
Customer : FINCANTIERI
Motor : 1312 T2

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Test nozzle holde
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 600

K12

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 3.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1-12-9- 4- 5
 : - 8- 11- 2- 3
 : - 10- 7- 6

Phasing : 0-45-60-105-120
 : -165-180-225-240
 : -285-300-345
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 750
Rack travel in mm : 15.30
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 288.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spread

Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

Del. quantity
cm³/1000 strokes : 39.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 10.0

Check tolerance
cm³/1000S. : 14.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350
guide sleeve
travel mm : 1.63
Tolerance mm : ± 0.20

Rated speed rpm : 1415
guide sleeve
travel mm : 8.40
Tolerance mm : ± 0.15

Rated speed rpm : 910
guide sleeve
travel mm : 5.33
Tolerance mm : ± 0.25

Rated speed rpm : 394
guide sleeve
travel mm : 2.38
Tolerance mm : ± 0.25

Rated speed rpm : 444
guide sleeve
travel mm : 2.95
Tolerance mm : ± 0.25

Rated speed rpm : 520
guide sleeve
travel mm : 3.49
Tolerance mm : ± 0.25

Rated speed rpm : 1740
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1490

Rack travel in mm : 14.30
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 750
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 288.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 7.0

Check tolerance
cm³/1000S. : 11.0

RATED SPEED

control lever
position degree : 117.0
tolerance degree : ± 4.0

rack travel mm : 14.30
Rated speed rpm : 1395
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1630
Tolerance 1/min : ± 15

rack travel mm : 1.00
Tolerance mm : ± 0.70
Rated speed rpm : 1750

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350
rack travel mm : 8.10
Tolerance mm : + 0.10

Rated speed rpm : 250
CRT mm min. : > 9.60
Rated speed rpm : 525

TORQUE CONTROL

Rated speed rpm : 750
rack travel mm : 15.30
Tolerance mm : + 0.05

Rated speed rpm : 1350
rack travel mm : 15.30
Tolerance mm : + 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 15.35
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.80
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 400
rack travel mm : 12.00
Tolerance mm : + 0.20

Pressure hPa : 500
rack travel mm : 13.75
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1350
Del. quantity
cm³/1000 strokes : 278.0

Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 139.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 14.30
Rated speed rpm : 1395
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + 0.75
Del. quantity
cm³/1000 strokes : 420.0
Tolerance
cm³/1000 strokes : + 15.0
Check tolerance
cm³/1000S. : + 19.0

LOW IDLE

Del. quantity
cm³/1000 strokes : 39.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0
Spreed
Tolerance
cm³/1000 strokes : 10.0
Check tolerance
cm³/1000S. : 14.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.09.94
Test oil : ISO 4113
Combination No. : 0402646649
Injection pump
Pump designation : PE6P130A720RS7339
EP type number : 0412636833
Governor
Governor design. : RQV300...950PA905-1
Governor no. : 0421814097

Cust. part No. :

Customer-spec. information
Customer : IVECO-AIFO
Motor : 8210.42.369
Power KW : 353.0

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : + 0.1
Test nozzle holder assembly : 1688901105
Opening pressure bar : 208.5
Tolerance bar : + 1.5
Test lines : 1680750075
Outside diameter : 8.0

K15

x inside diameter : 3.0
x length mm : 1000

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 5.05
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 14.00
Tolerance mm : + 0.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.30
Check tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1
S.o.d. blocking
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 950
Rack travel in mm : 13.95

Tolerance mm : \pm 0.05

Del. quantity
cm³/1000 strokes : 338.0

Tolerance
cm³/1000 strokes : \pm 1.0

Check tolerance
cm³/1000S. : \pm 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 300

Rack travel in mm : > 4.30
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 7.0
Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.81
Tolerance mm : \pm 0.20

Rated speed rpm : 1000
guide sleeve
travel mm : 7.75
Tolerance mm : \pm 0.15

Rated speed rpm : 409
guide sleeve
travel mm : 2.86
Tolerance mm : \pm 0.25

Rated speed rpm : 459
guide sleeve
travel mm : 3.29
Tolerance mm : \pm 0.25

Rated speed rpm : 720
guide sleeve
travel mm : 4.94
Tolerance mm : \pm 0.25

Rated speed rpm : 1260
guide sleeve
travel mm : 11.50
Tolerance mm : \pm 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1090
Rack travel in mm : 12.90
Tolerance mm : \pm 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950
Aneroid pressure
hPa : 900
Del. quantity
cm³/1000 strokes : 338.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0
Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 114.0
tolerance degree : \pm 4.0

rack travel mm : 12.90
Rated speed rpm : 995
Tolerance 1/min : \pm 5

rack travel mm : 4.00
Rated speed rpm : 1095
Tolerance 1/min : \pm 15

rack travel mm : 0.50
Tolerance mm : \pm 0.50
Rated speed rpm : 1200

rack travel mm : 4.00

LOW IDLE

control lever
position degree : 65.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.30
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 5.80

Rated speed rpm : 430

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 13.95
Tolerance mm : ± 0.05

MEASUREMENT

Rated speed rpm : 500
Pressure hPa : 350
rack travel mm : 10.25
Tolerance mm : ± 0.10

Pressure hPa : -
rack travel mm : 12.95
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 196.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 12.90
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 150.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : > 4.30
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 24.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 7.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 09.09.94
Test oil : ISO 4113

Combination No. : 0402646777

Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865

Governor
Governor design. : RQV300...1050PA1168
Governor no. : 0421814108

Cust. part No. : 0250745102

Customer-spec. information
Customer : MB-NFZ
Motor : OM401 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. L/h : 110
Tolerance L/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

K18

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360

Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm	:	13.00
Tolerance mm	:	+ 0.05
<hr/>		
Del. quantity		
cm ³ /1000 strokes	:	231.0
<hr/>		
Tolerance		
cm ³ /1000 strokes	:	+ 1.0
<hr/>		
Check tolerance		
cm ³ /1000S.	:	+ 4.0
<hr/>		
Spreed		
Tolerance		
cm ³ /1000 strokes	:	5.0
<hr/>		
Check tolerance		
cm ³ /1000S.	:	9.0
<hr/>		
2nd speed rpm	:	300
<hr/>		
Rack travel in mm	:	5.20
Tolerance mm	:	+ 0.30
Del. quantity		
cm ³ /1000 strokes	:	13.0
Tolerance		
cm ³ /1000 strokes	:	+ 3.0
Check tolerance		
cm ³ /1000S.	:	+ 6.0
<hr/>		
Spreed		
Tolerance		
cm ³ /1000 strokes	:	6.0
Check tolerance		
cm ³ /1000S.	:	10.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	300
guide sleeve		
travel mm	:	1.29
Tolerance mm	:	+ 0.15
<hr/>		
Rated speed rpm	:	1107
guide sleeve		
travel mm	:	8.52
Tolerance mm	:	+ 0.20
<hr/>		
Rated speed rpm	:	1640
guide sleeve		
travel mm	:	25.13
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	558

guide sleeve		
travel mm	:	4.53
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	608
guide sleeve		
travel mm	:	5.03
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	820
guide sleeve		
travel mm	:	6.13
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	1183
guide sleeve		
travel mm	:	10.00
Tolerance mm	:	+ 0.25
<hr/>		
Rated speed rpm	:	1280
guide sleeve		
travel mm	:	11.50
Tolerance mm	:	+ 0.50

GUIDE SLEEVE POSITION

control lever		
position degree	:	- 1
Rated speed rpm	:	1160
<hr/>		
Rack travel in mm	:	11.70
Tolerance mm	:	+ 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	700
Aneroid pressure		
hPa	:	1000
Del. quantity		
cm ³ /1000 strokes	:	231.0
Tolerance		
cm ³ /1000 strokes	:	+ 1.0
Check tolerance		
cm ³ /1000S.	:	+ 4.0
<hr/>		
Spreed		
Tolerance		
cm ³ /1000 strokes	:	5.0
Check tolerance		
cm ³ /1000S.	:	9.0

RATED SPEED

control lever		
position degree	:	120.0
tolerance degree	:	+ 4.0

rack travel mm : 12.00
Rated speed rpm : 1095
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1170
Tolerance 1/min : + 15

rack travel mm : 0.75
Tolerance mm : + 0.75
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 80.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 8.00

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.00
Tolerance mm : + 0.05

Rated speed rpm : 1050
rack travel mm : 13.00
Tolerance mm : + 0.10

Rated speed rpm : 400
rack travel mm : 11.55
Tolerance mm : + 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 13.00
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.35
Tolerance mm : + 0.15

Rated speed rpm : 400

rack travel mm : 11.55
Tolerance mm : + 0.10

Pressure hPa : 600
rack travel mm : 12.50
Tolerance mm : + 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 228.0
Tolerance
cm³/1000 strokes : + 2.0
Check tolerance
cm³/1000S. : + 5.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 400
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 158.0
Tolerance
cm³/1000 strokes : + 1.5
Check tolerance
cm³/1000S. : + 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1095
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : +- 10.0
Check tolerance
cm³/1000S. : +- 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : +- 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : +- 3.0
Check tolerance
cm³/1000S. : +- 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 20.09.94
Test oil : ISO 4113
Combination No. : 0400074088T8
Injection pump
Pump designation : PES4M55C320RS175
EP type number :
Governor
Governor design. : RSV400...2000MOC353
Governor no. : -8
Cust. part No. : T 8

Customer-spec. information
Customer : MB-NFZ
Motor : OM601 (2,3L)
Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1469990351
Inlet press. bar : 1.0
Test nozzle holde
assembly : 1688901111
Opening pressure
bar : 148.5
Tolerance bar : + 1.5
Test lines : 1680750014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0
Prestroke mm : 2.05
Tolerance mm : + 0.05
test only : + 0.10
Rack travel in mm : 21.00
Tolerance mm : + 1.00
Firing order : 1- 3- 4- 2
Phasing : 0-90-180-270

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
°NW after s.o.d. : 15.5
Tolerance : + 0.20
Check
tolerance °NW : + 0.30

BASIC SETTING

Rated speed rpm : 1980
Rack travel in mm : 11.95
Tolerance mm : + 0.05
Del. quantity
cm³/1000 strokes : 40.0
Tolerance
cm³/1000 strokes : + 0.5

Check tolerance
 cm³/1000S. : + 1.5

 Spreed

 Tolerance
 cm³/1000 strokes : 2.5

 Check tolerance
 cm³/1000S. : 3.0

 2nd speed rpm : 400
 Del. quantity
 cm³/1000 strokes : 7.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Spreed
 Tolerance
 cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

 GUIDE SLEEVE POSITION
 Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : + 0.35

 FULL LOAD DELIVERY AT FULL LOAD STOP
 Rated speed rpm : 1980
 Del. quantity
 cm³/1000 strokes : 40.0
 Tolerance
 cm³/1000 strokes : + 0.5
 Check tolerance
 cm³/1000S. : + 1.5
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 3.0

 RATED SPEED
 control lever
 position degree : 95.0
 rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 2250

 LOW IDLE
 control lever
 position degree : 64.0
 tolerance degree : + 4.0

Load pick-up
 Rated speed rpm : 100
 CRT mm min. : > 20.10
 rack travel mm : 5.40
 Rated speed rpm : 400

SET IDLE AUXILIARY SPRING
 rack travel mm : 2.00

 TORQUE CONTROL
 Rated speed rpm : 1980
 rack travel mm : 11.95
 Tolerance mm : + 0.05

Rated speed rpm : 500
 rack travel mm : 13.10
 Tolerance mm : + 0.10

Rated speed rpm : 1250
 rack travel mm : 12.80
 Tolerance mm : + 0.10

 ADJUST NEGATIVE TORQUE CONTROLL
 Rated speed rpm : 1500
 rack travel mm : 12.50
 Tolerance mm : + 0.10

 FUEL DELIVERY CHARACTERISTICS
 Rated speed rpm : 500
 Del. quantity
 cm³/1000 strokes : 39.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 2.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

Rated speed rpm : 1250

Speed
Del. quantity
cm³/1000 strokes : 40.3

Tolerance
cm³/1000 strokes : ± 0.8

Check tolerance
cm³/1000S. : ± 1.8

Speed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

control lever
position degree : 95.0

Adjustment of the control-rod travel
sensor

control lever
position degree : 95.0

STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 20.10

Del. quantity
cm³/1000 strokes : 52.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 6.0

LOW IDLE

Rated speed rpm : 400

rack travel mm : 5.40

Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 7.8

Check tolerance
cm³/1000S. : ± 2.3

Speed
Check tolerance
cm³/1000S. : 1.5

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 64.0

tolerance degree : ± 4.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.09.94
Test oil : ISO 4113

Combination No. : 0402638807

Injection pump
Pump designation : PE8P120A120LS7127
EP type number : 0412628817

Governor
Governor design. : RQ300/1100PA134-3
Governor no. : 0421801655

Cust. part No. :

Customer-spec. information
Customer : SNF
Motor : WD 815.72/73

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0

K25

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 8.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 4- 8- 6
 : - 3- 7- 2

Phasing : 0-45-90-135-180
 : -225-270-315
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Del. quantity
cm³/1000 strokes : 134.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread

Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 6.60
Tolerance mm : + 0.30

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : + 3.0

Check tolerance
cm³/1000S. : + 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.55
Tolerance mm : + 0.10

Rated speed rpm : 1156
guide sleeve
travel mm : 6.44
Tolerance mm : + 0.10

Rated speed rpm : 1100
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 427
guide sleeve
travel mm : 4.88
Tolerance mm : + 0.10

Rated speed rpm : 510
guide sleeve
travel mm : 6.00
Tolerance mm : + 0.10

Rated speed rpm : 1310
guide sleeve
travel mm : 11.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 600

Rack travel in mm : 16.00
Tolerance mm : + 0.60

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 500
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 134.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 109.0
tolerance degree : + 4.0

rack travel mm : 13.30
Rated speed rpm : 1153
Tolerance 1/min : + 8

rack travel mm : 4.00
Rated speed rpm : 1245
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 79.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
 rack travel mm : 6.60
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 420
 Tolerance 1/min : + 20

Rated speed rpm : 200

CRT mm min. : > 8.00

TORQUE CONTROL

Rated speed rpm : 1100
 rack travel mm : 14.55
 Tolerance mm : + 0.15

Rated speed rpm : 500
 rack travel mm : 14.55
 Tolerance mm : + 0.15

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
 Pressure hPa : 1500
 rack travel mm : 14.55
 Tolerance mm : + 0.15

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 490
 rack travel mm : 11.25
 Tolerance mm : + 0.10

Pressure hPa : 790
 rack travel mm : 13.25
 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500
 Rated speed rpm : 1100
 Del. quantity cm3/1000 strokes : 214.0
 Tolerance cm3/1000 strokes : + 2.0
 Check tolerance cm3/1000S. : + 5.0

Spreed Tolerance cm3/1000 strokes : 12.0
 Check tolerance cm3/1000S. : 15.0

Aneroid pressure hPa : 1500
 Rated speed rpm : 500
 Del. quantity cm3/1000 strokes : 238.0
 Tolerance cm3/1000 strokes : + 3.0
 Check tolerance cm3/1000S. : + 6.0

BREAKAWAY

Rack travel in mm : 13.30
 Rated speed rpm : 1153
 Tolerance 1/min : + 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
 rack travel mm : 16.00
 Tolerance mm : + 0.50
 Del. quantity cm3/1000 strokes : 195.0
 Tolerance cm3/1000 strokes : + 15.0
 Check tolerance cm3/1000S. : + 19.0

LOW IDLE

Rated speed rpm : 300
 rack travel mm : 6.60
 Tolerance mm : + 0.30
 Del. quantity cm3/1000 strokes : 20.0
 Tolerance cm3/1000 strokes : + 3.0
 Check tolerance cm3/1000S. : + 6.0

Spreed Tolerance cm3/1000 strokes : 8.0
 Check tolerance cm3/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.09.94
Test oil : ISO 4113
Combination No. : 0402638808
Injection pump
Pump designation : PE8P120A120LS7127
EP type number : 0412628817
Governor
Governor design. : RQV250...1100PA785
: -3
Governor no. : 0421814004
Cust. part No. :

Customer-spec. information
Customer : SNF
Motor : WD 815.72/73

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.15
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 8.50
Tolerance mm : ± 0.50

Firing order : 1- 5- 4- 8- 6
: - 3- 7- 2

Phasing : 0-45-90-135-180
: -225-270-315
Tolerance : ± 0.30
Check
tolerance °Nw : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Del. quantity
cm³/1000 strokes : 134.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 250

Rack travel in mm : 6.60
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 20.0

Tolerance
cm³/1000 strokes : ± 3.0

Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1220

Rack travel in mm : 12.80
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 500
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 134.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

L01

control lever
position degree : 107.0
tolerance degree : ± 4.0

rack travel mm : 13.40
Rated speed rpm : 1145
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1265
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1350

LOW IDLE

control lever
position degree : 74.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 6.60
Tolerance mm : ± 0.10

Rated speed rpm : 150

CRT mm min. : > 8.60

Rated speed rpm : 385

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 14.55
Tolerance mm : ± 0.15

Rated speed rpm : 500
rack travel mm : 14.55
Tolerance mm : ± 0.15

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 14.55
Tolerance mm : ± 0.15

MEASUREMENT

Rated speed rpm : 500

Pressure hPa : 520
 rack travel mm : 11.40
 Tolerance mm : ± 0.10

Pressure hPa : 790
 rack travel mm : 13.25
 Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : < 170
 Check speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500
 Rated speed rpm : 1100
 Del. quantity cm³/1000 strokes : 214.0
 Tolerance cm³/1000 strokes : ± 2.0
 Check tolerance cm³/1000S. : ± 5.0
 Spreed Tolerance cm³/1000 strokes : 12.0
 Check tolerance cm³/1000S. : 15.0

Aneroid pressure hPa : 1500
 Rated speed rpm : 500
 Del. quantity cm³/1000 strokes : 238.0
 Tolerance cm³/1000 strokes : ± 3.0
 Check tolerance cm³/1000S. : ± 6.0

BREAKAWAY

Rack travel in mm : 13.40
 Rated speed rpm : 1145
 Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

L02

rack travel mm : 16.00
 Tolerance mm : ± 0.50
 Del. quantity cm³/1000 strokes : 195.0
 Tolerance cm³/1000 strokes : ± 15.0
 Check tolerance cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 250
 rack travel mm : 6.60
 Tolerance mm : ± 0.30
 Del. quantity cm³/1000 strokes : 20.0
 Tolerance cm³/1000 strokes : ± 3.0
 Check tolerance cm³/1000S. : ± 6.0
 Spreed Tolerance cm³/1000 strokes : 8.0
 Check tolerance cm³/1000S. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.09.94
Test oil : ISO 4113
Combination No. : 0403476137
Injection pump
Pump designation : PES6MW100/72ORS1196
: -1
EP type number : 0413406219
Governor
Governor design. : RSV400...1000MW1A333
Governor no. : 0420085118

Cust. part No. : 927 7706

Customer-spec. information
Customer : LIEBHERR
Motor : D 916 T

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0
Overflow valve : 1417413049
Inlet press. bar : 1.5
Test nozzle holde
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : + 1.5
Test Lines : 1680750008
Outside diameter : 6.0
x inside diameter : 2.0

L03

x Length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 3.45
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : + 0.50
Check
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 10.25
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 118.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 3.0

<hr/>	
Spreed	
Tolerance	
cm ³ /1000 strokes :	3.5
<hr/>	
Check tolerance	
cm ³ /1000S.	: 6.0
2nd speed rpm	: 400
Rack travel in mm :	4.60
Tolerance mm :	+ 0.20
Del. quantity	
cm ³ /1000 strokes :	18.0
Tolerance	
cm ³ /1000 strokes :	+ 2.0
Check tolerance	
cm ³ /1000S.	: + 4.5
Spreed	
Tolerance	
cm ³ /1000 strokes :	3.5
Check tolerance	
cm ³ /1000S.	: 5.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever	
position degree :	- 3
Rated speed rpm :	800
Rack travel in mm :	0.65
Tolerance mm :	+ 0.35
governor spring	
pre-tension	
click setting x :	5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	900
Aneroid pressure	
hPa :	-
Del. quantity	
cm ³ /1000 strokes :	118.0
Tolerance	
cm ³ /1000 strokes :	+ 1.0
Check tolerance	
cm ³ /1000S.	: + 3.0
Spreed	
Tolerance	
cm ³ /1000 strokes :	3.5

Check tolerance	
cm ³ /1000S.	: 6.0

RATED SPEED

control lever	
position degree :	92.0
tolerance degree :	+ 4.0
rack travel mm :	9.25
Rated speed rpm :	925
Tolerance 1/min :	+ 5
rack travel mm :	4.00
Rated speed rpm :	970
Tolerance 1/min :	+ 10
rack travel mm :	1.00
Tolerance mm :	+ 0.70
Rated speed rpm :	1020
rack travel mm :	4.00
Rated speed rpm :	985

LOW IDLE

control lever	
position degree :	76.0
tolerance degree :	+ 4.0
Setting point w/out bumper spring	
Rated speed rpm :	400
rack travel mm :	3.60
Testing:	
Rated speed rpm :	400
rack travel mm :	4.60
Tolerance mm :	+ 0.20
Rated speed rpm :	100
CRT mm min. :	> 19.00

TORQUE CONTROL

Rated speed rpm :	900
rack travel mm :	10.25
Tolerance mm :	+ 0.05
Rated speed rpm :	500
rack travel mm :	10.30
Tolerance mm :	+ 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

BREAKAWAY

Rack travel in mm : 9.25
Rated speed rpm : 925
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : ± 0.75
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : ± 5.0
Check tolerance
cm³/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 4.60
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.09.94
Test oil : ISO 4113

Combination No. : 0403476137A

Injection pump
Pump designation : PES6MW100/72ORS1196
 : -1
EP type number : 0413406219

Governor
Governor design. : RSV400...1000MW1A333
Governor no. : 0420085118

Cust. part No. : 927 7706

Customer-spec. information
Customer : LIEBHERR
Motor : D 916 T
Power KW : 132.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413049

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750008

Outside diameter : 6.0

L06

x inside diameter : 2.0
x length mm : 600

REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.45
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 10.25
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 118.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
 cm³/1000S. : + 3.0

 Spreed
 Tolerance
 cm³/1000 strokes : 3.5

 Check tolerance
 cm³/1000S. : 6.0
 2nd speed rpm : 400
 Rack travel in mm : 4.60
 Tolerance mm : + 0.20
 Del. quantity
 cm³/1000 strokes : 18.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 5.5

(B) SETTING OF INJECTION PUMP
 WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.65
 Tolerance mm : + 0.35
 governor spring
 pre-tension
 click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 118.0
 Tolerance
 cm³/1000 strokes : + 1.0
 Check tolerance
 cm³/1000S. : + 3.0
 Spreed

Tolerance
 cm³/1000 strokes : 3.5
 Check tolerance
 cm³/1000S. : 6.0

RATED SPEED

control lever
 position degree : 92.0
 tolerance degree : + 4.0
 rack travel mm : 9.25
 Rated speed rpm : 925
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 Rated speed rpm : 970
 Tolerance 1/min : + 10
 rack travel mm : 1.00
 Tolerance mm : + 0.70
 Rated speed rpm : 1020
 rack travel mm : 4.00
 Rated speed rpm : 985

LOW IDLE

control lever
 position degree : 76.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 400
 rack travel mm : 3.60

Testing:

Rated speed rpm : 400
 rack travel mm : 4.60
 Tolerance mm : + 0.20

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 900
 rack travel mm : 10.25
 Tolerance mm : + 0.05

Rated speed rpm : 500
 rack travel mm : 10.85

Tolerance mm : ± 0.10
Rated speed rpm : 600
rack travel mm : 10.85
Tolerance mm : ± 0.10

Check tolerance
cm³/1000S. : ± 8.0

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 125.5
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 129.5
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 7.0

BREAKAWAY

Rack travel in mm : 9.25
Rated speed rpm : 925
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : ± 0.75
Del. quantity
cm³/1000 strokes : 132.0
Tolerance
cm³/1000 strokes : ± 5.0

LOW IDLE

Rated speed rpm : 400
rack travel mm : 4.60
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 18.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.5
Spreed
Tolerance
cm³/1000 strokes : 3.5
Check tolerance
cm³/1000S. : 5.5

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 04.10.94
Test oil : ISO 4113

Combination No. : 0401846950

Injection pump
Pump designation : PE6P110A72ORS3289
EP type number : 0411816781

Governor
Governor design. : RQV200...1100PA555
 : -5
Governor no. : 0421813943

Cust. part No. : 1333234

Customer-spec. information
Customer : SCANIA
Motor : DS11 63A

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 2.5

Test nozzle holde
assembly : 1688901104

Opening pressure
bar : 251.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750008

Outside diameter : 6.0

L09

x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.35
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 172.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 325

Rack travel in mm : 6.60
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1130

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 172.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

L10

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 62.0
tolerance degree : ± 4.0

control lever
position degree : 116.0
tolerance degree : ± 4.0

rack travel mm : 11.30
Rated speed rpm : 1145
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1280
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1400

LOW IDLE

control lever
position degree : 69.0
tolerance degree : ± 4.0

control lever
position degree : 16.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 6.60
Tolerance mm : ± 0.10

Rated speed rpm : 225

CRT mm min. : > 8.80

Rated speed rpm : 310

TORQUE CONTROL

Rated speed rpm : 1100
rack travel mm : 12.35
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 12.35
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.00
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 140
rack travel mm : 10.80
Tolerance mm : ± 0.15

Pressure hPa : 200
rack travel mm : 11.75
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 1100
Del. quantity
cm³/1000 strokes : 164.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 114.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 11.30
Rated speed rpm : 1145

L11

Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 6.60
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 22.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.09.94
Test oil : ISO 4113
Combination No. : 0402646620
Injection pump Pump designation : PE6P120A72ORS7188
EP type number : 0412626924
Governor Governor design. : RGV300...900PA795
Governor no. : 0421814058
Cust. part No. : 1337550

Customer-spec. information
Customer : SCANIA
Motor : D 11

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 2.5
Tolerance bar : ± 0.1
Test nozzle holder assembly : 1688901104
Opening pressure bar : 251.5
Tolerance bar : ± 1.5
Test lines : 1680750008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 4.45
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 13.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 236.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 300

Rack travel in mm : 4.80
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1040

Rack travel in mm : 12.00
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 236.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

L13

Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 47.0
tolerance degree : ± 4.0

control lever
position degree : 105.0
tolerance degree : ± 4.0

rack travel mm : 12.30
Rated speed rpm : 945
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1035
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1150

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

control lever
position degree : 15.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.80
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 7.50

Rated speed rpm : 345

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 13.35
Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 13.35
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.40
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 270
rack travel mm : 11.00
Tolerance mm : \pm 0.15

Pressure hPa : 440
rack travel mm : 12.05
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 222.0
Tolerance
cm³/1000 strokes : \pm 4.0
Check tolerance
cm³/1000S. : \pm 8.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 153.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

Rack travel in mm : 12.30
Rated speed rpm : 945

Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 10.40
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : \pm 20.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.80
Tolerance mm : \pm 0.30
Del. quantity
cm³/1000 strokes : 23.0
Tolerance
cm³/1000 strokes : \pm 3.0
Check tolerance
cm³/1000S. : \pm 6.0
Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 30.09.94
Test oil : ISO 4113

Combination No. : 0402646904

Injection pump
Pump designation : PE6P120A720RS7126
: -10
EP type number : 0412626929

Governor
Governor design. : RQV300...900PA795
: -10
Governor no. : 0421813846

Cust. part No. : 1305081

Customer-spec. information
Customer : SCANIA
Motor : DS11

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Test nozzle holder
assembly : 1688901019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Test lines : 1680750015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 235.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 6.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 4.50
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

Speed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 970

Rack travel in mm : 16.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -

Del. quantity
cm³/1000 strokes : 235.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

L16

Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 50.0
tolerance degree : ± 4.0

control lever
position degree : 108.0
tolerance degree : ± 4.0

rack travel mm : 13.10
Rated speed rpm : 945
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1045
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1150

LOW IDLE

control lever
position degree : 77.0
tolerance degree : ± 4.0

control lever
position degree : 19.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 4.50
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 10.00

Rated speed rpm : 300
rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 14.15

Tolerance mm : ± 0.05

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 900
rack travel mm : 14.15
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.70
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 250
rack travel mm : 11.20
Tolerance mm : ± 0.20

Pressure hPa : 510
rack travel mm : 13.05
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 224.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 152.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.10

L17

Rated speed rpm : 945
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : ± 0.50
Del. quantity
cm³/1000 strokes : 300.0
Tolerance
cm³/1000 strokes : ± 20.0
Check tolerance
cm³/1000S. : ± 24.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 4.50
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 17.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.06.94
Test oil : ISO 4113
Combination No. : 0402846059
Injection pump
Pump designation : PE6P120A72ORS8026
EP type number : 0412826027
Governor
Governor design. : RQV200...950PA1091K
Governor no. : 0421815984
Cust. part No. : 1355081

Customer spec. information
Customer : SCANIA
Motor : DSC1172

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 2.5
Test nozzle holde
assembly : 1688901104
Opening pressure
bar : 251.5
Tolerance bar : ± 1.5
Lube oil : 1409918004
Test lines : 1680750008
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.25
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 13.35
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 383.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

2nd speed rpm : 250

Rack travel in mm : 4.40
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250
guide sleeve
travel mm : 1.26
Tolerance mm : ± 0.20

Rated speed rpm : 1008
guide sleeve
travel mm : 9.87
Tolerance mm : ± 0.15

Rated speed rpm : 800
guide sleeve
travel mm : 6.59
Tolerance mm : ± 0.25

Rated speed rpm : 310
guide sleeve
travel mm : 2.00
Tolerance mm : ± 0.25

Rated speed rpm : 360

guide sleeve
travel mm : 2.45
Tolerance mm : ± 0.25

Rated speed rpm : 520
guide sleeve
travel mm : 3.58
Tolerance mm : ± 0.25

Rated speed rpm : 1200
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1060

Rack travel in mm : 12.50
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : -
Del. quantity
cm³/1000 strokes : 383.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

RATED SPEED

control lever
position degree : 65.0
tolerance degree : ± 4.0

control lever
position degree : 118.0
tolerance degree : ± 4.0

rack travel mm : 13.50
Rated speed rpm : 995
Tolerance 1/min : ± 5

rack travel mm : 4.00

Rated speed rpm : 1075
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1150

LOW IDLE

control lever
position degree : 71.0
tolerance degree : + 4.0

control lever
position degree : 17.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 250
rack travel mm : 4.40
Tolerance mm : + 0.10

Rated speed rpm : 150

CRT mm min. : > 5.40

Rated speed rpm : 325
rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 950
rack travel mm : 14.50
Tolerance mm : + 0.10

Rated speed rpm : 300
rack travel mm : 10.75
Tolerance mm : + 0.20

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 950
Pressure hPa : 1500
rack travel mm : 13.50
Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 950
rack travel mm : 7.00

L20

Tolerance mm : + 0.20

Rated speed rpm : 950

Pressure hPa : 520
rack travel mm : 7.80
Tolerance mm : + 0.20

Pressure hPa : 800
rack travel mm : 9.85
Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 384.0
Tolerance
cm³/1000 strokes : + 4.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 189.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : 13.50
Rated speed rpm : 995
Tolerance 1/min : + 5

LOW IDLE

Rated speed rpm : 250
rack travel mm : 4.40
Tolerance mm : + 0.30
Del. quantity
cm³/1000 strokes : 16.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Speed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 8.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.09.94
Test oil : ISO 4113

Combination No. : 0402946012

Injection pump
Pump designation : PES6P120A320RS8031
EP type number : 0412926022

Governor
Governor design. : RQV300...1000PA1181K
Governor no. : 0421815975

Cust. part No. : CCEP 5145 66-234

Customer-spec. information
Customer : RVI
Motor : MIDR 063540 P 41
Power KW : 300.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413078

Inlet press. bar : 2.5

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089

Outside diameter : 8.0

L22

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.60
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 11.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

betw. rack trav.
mm : 19.50
and maximum rack
travel : 21.00
Difference ° CS : 2.75
Tolerance : ± 0.75

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.70
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 357.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : -7.80
Tolerance mm : ± 0.20

Del. quantity
cm³/1000 strokes : 35.0

Tolerance
cm³/1000 strokes : ± 2.0

Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 8.0

Check tolerance
cm³/1000S. : 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.47
Tolerance mm : ± 0.25

Rated speed rpm : 1082
guide sleeve
travel mm : 9.30
Tolerance mm : ± 0.25

Rated speed rpm : 797
guide sleeve
travel mm : 6.08
Tolerance mm : ± 0.25

Rated speed rpm : 383
guide sleeve
travel mm : 2.42
Tolerance mm : ± 0.25

Rated speed rpm : 433
guide sleeve
travel mm : 2.89
Tolerance mm : ± 0.25

Rated speed rpm : 530
guide sleeve
travel mm : 3.71
Tolerance mm : ± 0.25

Rated speed rpm : 1350
guide sleeve
travel mm : 13.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1200

Rack travel in mm : 12.00
Tolerance mm : ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 357.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 297.0
tolerance degree : ± 4.0

rack travel mm : -1.00
Rated speed rpm : 1070
Tolerance 1/min : ± 5

rack travel mm : -9.60
Rated speed rpm : 1170
Tolerance 1/min : + 15

rack travel mm : -13.20
Tolerance mm : + 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 254.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300
rack travel mm : -7.80
Tolerance mm : + 0.10

Rated speed rpm : 200
CRT mm max. : < -6.50
Rated speed rpm : 360

TORQUE CONTROL

Rated speed rpm : 1000

Rated speed rpm : 600
rack travel mm : -0.65
Tolerance mm : + 0.10

Rated speed rpm : 850
rack travel mm : -0.35
Tolerance mm : + 0.20

Rated speed rpm : 350
rack travel mm : -1.70
Tolerance mm : + 0.25

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 1000
Pressure hPa : 1000
Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -

L24

Rated speed rpm : 500
rack travel mm : -4.50
Tolerance mm : + 0.20

Rated speed rpm : 1000

Pressure hPa : 240
rack travel mm : -3.70
Tolerance mm : + 0.20

Pressure hPa : 560
rack travel mm : -1.90
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 210
Check
speed 1/min : < 230

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 382.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 238.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1070
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 190.0
Tolerance
cm³/1000 strokes : + 10.0

Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : -7.80
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 35.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 29.09.94
Test oil : ISO 4113

Combination No. : 0402946013

Injection pump
Pump designation : PES6P120A32ORS8028
EP type number : 0412926021

Governor
Governor design. : RQV275...1250PA1189K
Governor no. : 0421815974

Cust. part No. : CCEP 5146 66-220

Customer-spec. information
Customer : RVI
Motor : MIDR 06.02.26Y41
Power Kw : 184.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413078

Inlet press. bar : 2.5

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 4.95
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 11.00
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-
: 4

Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 14.40
Tolerance mm : ± 0.05

Del. quantity cm ³ /1000 strokes	: 277.0
<hr/>	
Tolerance cm ³ /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm ³ /1000S.	: ± 4.0
<hr/>	
Speed Tolerance cm ³ /1000 strokes	: 5.0
<hr/>	
Check tolerance cm ³ /1000S.	: 9.0
2nd speed rpm	: 275
Rack travel in mm	: -7.90
Tolerance mm	: ± 0.20
Del. quantity cm ³ /1000 strokes	: 36.0
Tolerance cm ³ /1000 strokes	: ± 2.0
Check tolerance cm ³ /1000S.	: ± 6.0
Speed Tolerance cm ³ /1000 strokes	: 8.0
Check tolerance cm ³ /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve travel mm	: 1.10
Tolerance mm	: ± 0.25
Rated speed rpm	: 1332
guide sleeve travel mm	: 10.07
Tolerance mm	: ± 0.25
Rated speed rpm	: 912
guide sleeve travel mm	: 6.79
Tolerance mm	: ± 0.25
Rated speed rpm	: 412
guide sleeve travel mm	: 2.53
Tolerance mm	: ± 0.25
Rated speed rpm	: 462

guide sleeve travel mm	: 3.16
Tolerance mm	: ± 0.25
Rated speed rpm	: 550
guide sleeve travel mm	: 3.97
Tolerance mm	: ± 0.25
Rated speed rpm	: 1630
guide sleeve travel mm	: 13.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

control lever position degree	: - 1
Rated speed rpm	: 1420
Rack travel in mm	: 13.50
Tolerance mm	: ± 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1250
Aneroid pressure hPa	: 1600
Del. quantity cm ³ /1000 strokes	: 277.0
Tolerance cm ³ /1000 strokes	: ± 1.0
Check tolerance cm ³ /1000S.	: ± 4.0
Speed Tolerance cm ³ /1000 strokes	: 5.0
Check tolerance cm ³ /1000S.	: 9.0

RATED SPEED

control lever position degree	: 299.0
tolerance degree	: ± 4.0
rack travel mm	: -1.00
Rated speed rpm	: 1320
Tolerance 1/min	: ± 5
rack travel mm	: -10.40
Rated speed rpm	: 1465
Tolerance 1/min	: ± 15
rack travel mm	: -13.90

Tolerance mm : + 0.50
Rated speed rpm : 1600

LOW IDLE

control lever
position degree : 254.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -7.90
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm max. : < -7.10

Rated speed rpm : 380

TORQUE CONTROL

Rated speed rpm : 1250

Rated speed rpm : 650
rack travel mm : -1.10
Tolerance mm : + 0.10

Rated speed rpm : 350
rack travel mm : -2.80
Tolerance mm : + 0.25

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 1250
Pressure hPa : 1600
Tolerance mm : + 0.10

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -4.50
Tolerance mm : + 0.20

Rated speed rpm : 1250

Pressure hPa : 360
rack travel mm : -4.00
Tolerance mm : + 0.20

Pressure hPa : 560
rack travel mm : -2.70
Tolerance mm : + 0.05

START CUT-OUT

Rated speed rpm : < 225
Check
speed 1/min : < 245

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1600
Rated speed rpm : 650
Del. quantity
cm³/1000 strokes : 287.0
Tolerance
cm³/1000 strokes : + 3.0
Check tolerance
cm³/1000S. : + 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 197.0
Tolerance
cm³/1000 strokes : + 1.0
Check tolerance
cm³/1000S. : + 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1320
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 97.0
Tolerance
cm³/1000 strokes : + 10.0
Check tolerance
cm³/1000S. : + 14.0

LOW IDLE

Rated speed rpm : 275
rack travel mm : -7.90

Tolerance mm : +- 0.20
Del. quantity
cm3/1000 strokes : 36.0
Tolerance
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000S. : +- 6.0
Spreed
Tolerance
cm3/1000 strokes : 3.0
Check tolerance
cm3/1000S. : 12.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.10.94
Test oil : ISO 4113
Combination No. : 0400074778
Injection pump
Pump designation : PES4M60C320RS185
EP type number : 0410064006
Governor
Governor design. : RSF375/1900M79
Governor no. : 0420021280

Cust. part No. :

Customer-spec. information
Customer : MB-PKW
Motor : OM601 D23 LA
Power KW : 72.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1469990351
Inlet press. bar : 1.0
Test nozzle holder
assembly : 1688901111
Opening pressure
bar : 148.5
Tolerance bar : ± 1.5
Test lines : 1680750014
Outside diameter : 6.0
x inside diameter : 2.0

MD2

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 2.05
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 21.00
Tolerance mm : ± 1.00
Firing order : 1-3-4-2
Phasing : 0-90-180-270

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
°NW after s.o.d. : 17.0
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 900
Rack travel in mm : 13.80
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 59.5

Tolerance
cm³/1000 strokes : ± 0.7

Check tolerance
cm³/1000S. : ± 1.8

Spreed

Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 3.5

2nd speed rpm : 375

Rack travel in mm : 6.00
Tolerance mm : ± 0.10

Del. quantity
cm³/1000 strokes : 6.5

Tolerance
cm³/1000 strokes : ± 0.5

Spreed
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.50
Tolerance mm : ± 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 1850
Del. quantity
cm³/1000 strokes : 59.5
Tolerance
cm³/1000 strokes : ± 0.7
Check tolerance
cm³/1000S. : ± 1.8
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 3.5

RATED SPEED

control lever
position degree : 50.0
rack travel mm : 8.30
Rated speed rpm : 2200
rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 2600

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 900
CRT mm max. : 1.95

LOW IDLE

tolerance degree : ± 2.0
Setting point w/out bumper spring
Rated speed rpm : 375
rack travel mm : 6.00

SET IDLE AUXILIARY SPRING

Rated speed rpm : 500
rack travel mm : 4.20
Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 250
CRT mm min. : > 11.00
Rated speed rpm : 900
CRT mm max. : 1.95
rack travel mm : 6.00
Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 13.80
Tolerance mm : ± 0.05
Rated speed rpm : 1500
rack travel mm : 13.20
Tolerance mm : ± 0.10
Rated speed rpm : 1900
rack travel mm : 12.60

Tolerance mm : \pm 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 1600
rack travel mm : -0.30
Tolerance mm : \pm 0.20

MEASUREMENT

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 1100
rack travel mm : -2.65
Tolerance mm : \pm 0.10

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -4.30
Tolerance mm : \pm 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1850
Rated speed rpm : 1500
Del. quantity
cm³/1000 strokes : 58.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 2.0
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 3.5

Ref. pressure
ALDA / ADA hPa : 1850
Rated speed rpm : 1900
Spreed
Del. quantity
cm³/1000 strokes : 56.0
Tolerance
cm³/1000 strokes : \pm 1.2
Check tolerance
cm³/1000S. : \pm 2.2
Spreed
Tolerance
cm³/1000 strokes : 3.0

M04

Check tolerance
cm³/1000S. : 3.5

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 43.0
Tolerance
cm³/1000 strokes : \pm 0.7
Check tolerance
cm³/1000S. : \pm 1.8
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 3.5

HIGH IDLE

Rated speed rpm : 2200
rack travel mm : 8.30
Tolerance mm : \pm 0.20
Del. quantity
cm³/1000 strokes : 31.0
Tolerance
cm³/1000 strokes : \pm 2.2
Check tolerance
cm³/1000S. : \pm 3.2
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 3.5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 50.0
Spreed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 8.5

LOW IDLE

Rated speed rpm : 375
rack travel mm : 6.00
Tolerance mm : \pm 0.10

Del. quantity
cm³/1000 strokes : 7.8
Check tolerance
cm³/1000S. : ± 2.3
Speed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 42.00
degree : < 39.50

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

tolerance degree : ± 2.0
Current A : 1.80

control lever
position degree : 50.0

Current short-
duration A : 3.00

Starting test

Rated speed rpm : 100
Current A : 1.80

Adjustment of the control-rod travel
sensor

control lever
position degree : 50.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 11.10.94
Test oil : ISO 4113
Combination No. : 0400074883
Injection pump
Pump designation : PES4M60C320RS185
EP type number : 0410064006
Governor
Governor design. : RSF375/1900M78
Governor no. : 0420021274

Cust. part No. :

Customer spec. information
Customer : MB-PKW
Motor : OM601 D23 LA
Power KW : 72.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1469990351
Inlet press. bar : 1.0
Test nozzle holde
assembly : 1688901111
Opening pressure
bar : 148.5
Tolerance bar : ± 1.5
Test lines : 1680750014
Outside diameter : 6.0
x inside diameter : 2.0

MD6

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 2.05
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 21.00
Tolerance mm : ± 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

BEGINNING OF DELIVERY DIFFERENCE

S.o.d. blocking
Barrel no. : 1
°NW after s.o.d. : 17.0
Tolerance : ± 0.20
Check
tolerance °NW : ± 0.30

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 13.80
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 59.5

Tolerance
cm³/1000 strokes : +- 0.7

Check tolerance
cm³/1000S. : +- 1.8

Spreed

Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 3.5

2nd speed rpm : 375

Rack travel in mm : 6.00
Tolerance mm : +- 0.10

Del. quantity
cm³/1000 strokes : 6.5
Tolerance
cm³/1000 strokes : +- 0.5

Spreed
Tolerance
cm³/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.50
Tolerance mm : +- 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 1850
Del. quantity
cm³/1000 strokes : 59.5
Tolerance
cm³/1000 strokes : +- 0.7
Check tolerance
cm³/1000S. : +- 1.8
Spreed
Tolerance
cm³/1000 strokes : 3.0
Check tolerance
cm³/1000S. : 3.5

RATED SPEED

control lever
position degree : 50.0

rack travel mm : 8.30
Rated speed rpm : 2200

rack travel mm : 0.50
Tolerance mm : +- 0.50
Rated speed rpm : 2600

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 900
CRT mm max. : 1.95

LOW IDLE

tolerance degree : +- 2.0

Setting point w/out bumper spring
Rated speed rpm : 375
rack travel mm : 6.00

SET IDLE AUXILIARY SPRING

Rated speed rpm : 500
rack travel mm : 4.20
Tolerance mm : +- 0.10

Load pick-up

Rated speed rpm : 250
CRT mm min. : > 11.00
Rated speed rpm : 900
CRT mm max. : 1.95
rack travel mm : 6.00
Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 900
rack travel mm : 13.80
Tolerance mm : +- 0.05

Rated speed rpm : 1500
rack travel mm : 13.20
Tolerance mm : +- 0.10

Rated speed rpm : 1900
rack travel mm : 12.60

Tolerance mm : ± 0.10

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 1600
rack travel mm : -0.30
Tolerance mm : ± 0.20

MEASUREMENT

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 1100
rack travel mm : -2.65
Tolerance mm : ± 0.10

Rated speed rpm : 900
Ref. pressure
ALDA / ADA hPa : 750
rack travel mm : -4.30
Tolerance mm : ± 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure
ALDA / ADA hPa : 1850
Rated speed rpm : 1500
Del. quantity
cm³/1000 strokes : 58.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 2.0

Ref. pressure
ALDA / ADA hPa : 1850
Rated speed rpm : 1900
Speed
Del. quantity
cm³/1000 strokes : 56.0
Tolerance
cm³/1000 strokes : ± 1.2
Check tolerance
cm³/1000S. : ± 2.2

Ref. pressure
ALDA / ADA hPa : 1100
Rated speed rpm : 900
Del. quantity
cm³/1000 strokes : 43.0
Tolerance
cm³/1000 strokes : ± 0.7

M08

Check tolerance
cm³/1000S. : ± 1.8

HIGH IDLE

Rated speed rpm : 2200
rack travel mm : 8.30
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 31.0
Tolerance
cm³/1000 strokes : ± 2.2
Check tolerance
cm³/1000S. : ± 3.2

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 50.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 8.5

LOW IDLE

Rated speed rpm : 375
rack travel mm : 6.00
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 7.8
Check tolerance
cm³/1000S. : ± 2.3
Speed
Check tolerance
cm³/1000S. : 1.5

CHECKING THE IDLE-SPEED AUXILIARY

degree : > 42.00
degree : < 39.50

SETTING PNEUMATIC FAST IDLE (ELA)
(PLA) POSITION

control lever
position degree : VWL
Rated speed rpm : 425

Rack travel in mm : 8.40
Tolerance mm : \pm 0.80

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

tolerance degree : \pm 2.0

control lever
position degree : 50.0

Adjustment of the control-rod travel
sensor

control lever
position degree : 50.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.02.89
Test oil : ISO 4113
Combination No. : 0400074909
Injection pump
Pump designation : PES4M55C32ORS107-2
EP type number : 0410054962
Governor
Governor design. : RSF375/1900M18-4
Governor no. : 0420021096

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM616 (2.4 L)
Power kW : 47.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413012
Inlet press. bar : 1.0
Test nozzle holde
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1680750014
Outside diameter : 6.0
x inside diameter : 2.0

M10

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 2.25
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 20.00
Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Check
tolerance °NW : ± 1.00

BASIC SETTING

Rated speed rpm : 1000
Rack travel in mm : 13.05
Tolerance mm : ± 0.05
Del. quantity
cm3/1000 strokes : 38.0
Tolerance
cm3/1000 strokes : ± 0.5
Check tolerance
cm3/1000S. : ± 1.5
Speed
Tolerance
cm3/1000 strokes : 2.5
Check tolerance
cm3/1000S. : 3.0
Rack travel in mm : 5.00
Tolerance mm : ± 0.10

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 38.0
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 1.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

RATED SPEED

control lever
position degree : 50.0
rack travel mm : 7.80
Rated speed rpm : 2100
rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 2350

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000
CRT mm max. : < 1.50

LOW IDLE

control lever
position degree : 11.0
tolerance degree : ± 2.0
Setting point w/out bumper spring
Rated speed rpm : 450
rack travel mm : 5.00

SET IDLE AUXILIARY SPRING

Rated speed rpm : 375
rack travel mm : 6.20
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 770
Tolerance 1/min : ± 50

Load pick-up

Rated speed rpm : 250
CRT mm min. : > 10.50
Rated speed rpm : 1000
CRT mm max. : < 1.50

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 13.05
Tolerance mm : ± 0.05
Rated speed rpm : 1400
rack travel mm : 12.50
Tolerance mm : ± 0.10
Rated speed rpm : 1900
rack travel mm : 12.10
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1400
Del. quantity
cm³/1000 strokes : 38.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0
Rated speed rpm : 1900
Spreed
Del. quantity
cm³/1000 strokes : 39.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 53.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

control lever
position degree : 11.0
tolerance degree : ± 2.0

control lever
position degree : 50.0

Adjustment of the control-rod travel
sensor

control lever
position degree : 50.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.02.89
Test oil : ISO 4113

Combination No. : 0400074923

Injection pump
Pump designation : PES4M50C320RS103-1
EP type number : 0410054025

Governor
Governor design. : RSF375/2200M19-1
Governor no. : 0420021065

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM615 -2.0 l-
Power KW : 46.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413012

Inlet press. bar : 1.0

Test nozzle holder
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

x inside diameter : 2.0

M13

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 1.75
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270
Check
tolerance °NW : ± 1.00

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.05
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 31.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 1.5

Speed

Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

Rack travel in mm : 4.90
Tolerance mm : ± 0.10

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Del. quantity
cm³/1000 strokes : 31.5
Tolerance
cm³/1000 strokes : ± 0.5
Check tolerance
cm³/1000S. : ± 1.5
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0

RATED SPEED

control lever
position degree : 50.0
rack travel mm : 7.30
Rated speed rpm : 2400
rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000
CRT mm max. : < 1.50

LOW IDLE

control lever
position degree : 14.0
tolerance degree : ± 2.0
Setting point w/out bumper spring
Rated speed rpm : 450
rack travel mm : 4.90

SET IDLE AUXILIARY SPRING

Rated speed rpm : 375
rack travel mm : 6.30
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 790
Tolerance 1/min : ± 50

Load pick-up

Rated speed rpm : 250
CRT mm min. : > 11.00
Rated speed rpm : 1000
CRT mm max. : < 1.50

TORQUE CONTROL

Rated speed rpm : 1000
rack travel mm : 12.05
Tolerance mm : ± 0.05
Rated speed rpm : 1800
rack travel mm : 11.50
Tolerance mm : ± 0.10
Rated speed rpm : 2100
rack travel mm : 11.00
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 1800
Del. quantity
cm³/1000 strokes : 33.3
Tolerance
cm³/1000 strokes : ± 0.8
Check tolerance
cm³/1000S. : ± 1.8
Spreed
Tolerance
cm³/1000 strokes : 2.5
Check tolerance
cm³/1000S. : 3.0
Rated speed rpm : 2100
Spreed
Del. quantity
cm³/1000 strokes : 32.5
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 2.0
Spreed
Tolerance
cm³/1000 strokes : 2.5

Check tolerance
cm³/1000S. : 3.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm³/1000 strokes : 55.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 6.0

SETTING/TESTING ELECTRONIC IDLE
REGULATION (ELR)

control lever
position degree : 14.0
tolerance degree : +- 2.0

control lever
position degree : 50.0

Adjustment of the control-rod travel
sensor

control lever
position degree : 50.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.10.94
Test oil : ISO 4113

Combination No. : 0400864088

Injection pump
Pump designation : PES4A85D410/3RS2799
EP type number : 0410884944

Governor
Governor design. : RSV325...1250A2C2253
 : -2L
Governor no. : 0420232556

Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BF4L913
Power KW : 78.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419992198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

M16

x inside diameter : 2.0
x length mm : 600

REMARKS

Test electrically-released starting quantity (EES) with 12 volts

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 2.50
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.75
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 84.5

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Speed

Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 7.0

2nd speed rpm : 325

Rack travel in mm : 6.00
Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 15.0

Tolerance
cm³/1000 strokes : + 2.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 4.5

Check tolerance
cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 3
Rated speed rpm : 800

Rack travel in mm : 0.50
Tolerance mm : + 0.20

governor spring
pre-tension
click setting x : 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250
Aneroid pressure
hPa : 1000

Del. quantity
cm³/1000 strokes : 84.5

Tolerance
cm³/1000 strokes : + 0.5

Check tolerance
cm³/1000S. : + 2.5

Spread
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
cm³/1000S. : 7.0

RATED SPEED

control lever
position degree : 95.0
tolerance degree : + 4.0

rack travel mm : 10.70
Rated speed rpm : 1295
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1335
Tolerance 1/min : + 15

rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1480

LOW IDLE

control lever
position degree : 64.0
tolerance degree : + 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 6.00
Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 370
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

TORQUE CONTROL

Rated speed rpm : 1250
rack travel mm : 11.75
Tolerance mm : + 0.05

Rated speed rpm : 500
rack travel mm : 12.15
Tolerance mm : + 0.05

Rated speed rpm : 800
rack travel mm : 12.00

Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.15
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 10.85
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 230
rack travel mm : 11.50
Tolerance mm : ± 0.10

Pressure hPa : 300
rack travel mm : 11.85
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 520
Rated speed rpm : 800
Del. quantity
cm³/1000 strokes : 81.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 59.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 10.70

M18

Rated speed rpm : 1295
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.80
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 125.0
Tolerance
cm³/1000 strokes : ± 7.5
Check tolerance
cm³/1000S. : ± 10.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 6.00
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 15.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.94
Test oil : ISO 4113
Combination No. : 0400866117
Injection pump
Pump designation : PES6A80D410/3RS2527
EP type number : 0410886059
Governor
Governor design. : RSV325...900A1C602
 : -5L
Governor no. : 0420232605
Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : F6L913
Power Kw : 65.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1680750014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 1.95
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
 : 4
Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.50
Check
tolerance °NW : ± 0.75

BASIC SETTING

Del. quantity
cm3/1000 strokes : 51.0
Tolerance
cm3/1000 strokes : ± 0.5
Check tolerance
cm3/1000S. : ± 2.0
Speed
Tolerance
cm3/1000 strokes : 2.5
Check tolerance
cm3/1000S. : 4.0
2nd speed rpm : 395
Rack travel in mm : 9.40

Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : + 1.5
 Check tolerance
 cm³/1000S. : + 3.5
 Spreed
 Tolerance
 cm³/1000 strokes : 4.0
 Check tolerance
 cm³/1000S. : 6.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800

 Rack travel in mm : 0.50
 Tolerance mm : + 0.20

 governor spring
 pre-tension
 click setting x : 3.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 880
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 51.0
 Tolerance
 cm³/1000 strokes : + 0.5
 Check tolerance
 cm³/1000S. : + 2.0
 Spreed
 Tolerance
 cm³/1000 strokes : 2.5
 Check tolerance
 cm³/1000S. : 4.0

RATED SPEED

control lever
 position degree : 96.0
 tolerance degree : + 4.0

 rack travel mm : 11.20

M20

Rated speed rpm : 925
 Tolerance 1/min : + 5

 rack travel mm : 4.00
 Rated speed rpm : 960
 Tolerance 1/min : + 15

 rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1110

LOW IDLE

control lever
 position degree : 73.0
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 325
 rack travel mm : 9.40
 Tolerance mm : + 0.10

 rack travel mm : 2.00
 Rated speed rpm : 395
 Tolerance 1/min : + 30

 Rated speed rpm : 100

 CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

Rated speed rpm : 100

BREAKAWAY

Rack travel in mm : 11.20
 Rated speed rpm : 925
 Tolerance 1/min : + 5

LOW IDLE

Rated speed rpm : 395
 rack travel mm : 9.40
 Tolerance mm : + 0.10

Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.5
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 6.0



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.10.94
Test oil : ISO 4113
Combination No. : 0400866125
Injection pump Pump designation : PES6A85D410/3RS2761
EP type number : 0410886895
Governor Governor design. : RSV325...1150A8C674
Governor no. : 0420232518
Cust. part No. :

Customer-spec. information
Customer : KHD
Motor : BF6L913
Power KW : 112.0

TEST BENCH REQUIREMENTS

Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1419992198
Inlet press. bar : 1.5
Test nozzle holder assembly : 0681343009
Opening pressure bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1680750014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Prestroke mm : 2.55
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.50
Check tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1150
Rack travel in mm : 12.15
Tolerance mm : ± 0.05
Del. quantity cm3/1000 strokes : 85.0
Tolerance cm3/1000 strokes : ± 0.5
Check tolerance cm3/1000S. : ± 2.5
Speed Tolerance cm3/1000 strokes : 3.0

Check tolerance
 cm³/1000S. : 7.0
 2nd speed rpm : 325
 Rack travel in mm : 7.60
 Tolerance mm : + 0.10
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : + 2.0
 Check tolerance
 cm³/1000S. : + 4.0
 Spreed
 Tolerance
 cm³/1000 strokes : 4.5
 Check tolerance
 cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : + 0.20
 governor spring
 pre-tension
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
 Aneroid pressure
 hPa : 700
 Del. quantity
 cm³/1000 strokes : 85.0
 Tolerance
 cm³/1000 strokes : + 0.5
 Check tolerance
 cm³/1000S. : + 2.5
 Spreed
 Tolerance
 cm³/1000 strokes : 3.0
 Check tolerance
 cm³/1000S. : 7.0

RATED SPEED

control lever
 position degree : 103.0
 tolerance degree : + 4.0
 rack travel mm : 11.10
 Rated speed rpm : 1195
 Tolerance 1/min : + 5
 rack travel mm : 4.00
 Rated speed rpm : 1240
 Tolerance 1/min : + 15
 rack travel mm : 0.85
 Tolerance mm : + 0.55
 Rated speed rpm : 1410
 rack travel mm : 4.00
 Rated speed rpm : 1255

LOW IDLE

control lever
 position degree : 67.0
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 7.10

Testing:

Rated speed rpm : 325
 rack travel mm : 7.60
 Tolerance mm : + 0.10

rack travel mm : 2.00
 Rated speed rpm : 460
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1150
 rack travel mm : 12.15
 Tolerance mm : + 0.05

Rated speed rpm : 500
 rack travel mm : 12.65
 Tolerance mm : + 0.05

Rated speed rpm : 855

rack travel mm : 12.50
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : -
rack travel mm : 11.55
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : 350
Rated speed rpm : 500
rack travel mm : 11.95
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 700
rack travel mm : 12.65
Tolerance mm : ± 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 700
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 88.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 65.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 1195
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.20
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 120.0
Tolerance
cm³/1000 strokes : ± 7.5
Check tolerance
cm³/1000S. : ± 10.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 7.60
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.94
Test oil : ISO 4113

Combination No. : 0400866126

Injection pump
Pump designation : PES6A85D410/3RS2761
EP type number : 0410886895

Governor
Governor design. : RSV325...1150A8C673
 : -2L
Governor no. : 0420232519

Cust. part No. :

Customer-spec. information

Customer : KHD
Motor : BF6L913
Power KW : 112.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1419922198

Inlet press. bar : 1.5

Test nozzle holder
assembly : 0681343009

Opening pressure
bar : 173.5
Tolerance bar : ± 1.5

Test lines : 1680750014

Outside diameter : 6.0

M25

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Prestroke mm : 2.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300

Tolerance : ± 0.50

Check
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 85.0

Tolerance
cm³/1000 strokes : ± 0.5

Check tolerance
cm³/1000S. : ± 2.5

Speed
Tolerance
cm³/1000 strokes : 3.0

Check tolerance
 cm³/1000S. : 7.0
 2nd speed rpm : 325
 Rack travel in mm : 7.60
 Tolerance mm : ± 0.10
 Del. quantity
 cm³/1000 strokes : 12.0
 Tolerance
 cm³/1000 strokes : ± 2.0
 Check tolerance
 cm³/1000S. : ± 4.0
 Spread
 Tolerance
 cm³/1000 strokes : 4.5
 Check tolerance
 cm³/1000S. : 7.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
 position degree : - 3
 Rated speed rpm : 800
 Rack travel in mm : 0.50
 Tolerance mm : ± 0.20
 governor spring
 pre-tension
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150
 Aneroid pressure
 hPa : -
 Del. quantity
 cm³/1000 strokes : 85.0
 Tolerance
 cm³/1000 strokes : ± 0.5
 Check tolerance
 cm³/1000S. : ± 2.5
 Spread
 Tolerance
 cm³/1000 strokes : 3.0
 Check tolerance
 cm³/1000S. : 7.0

RATED SPEED

M26

control lever
 position degree : 102.0
 tolerance degree : ± 4.0
 rack travel mm : 11.10
 Rated speed rpm : 1195
 Tolerance 1/min : ± 5
 rack travel mm : 4.00
 Rated speed rpm : 1240
 Tolerance 1/min : ± 15
 rack travel mm : 0.85
 Tolerance mm : ± 0.55
 Rated speed rpm : 1410
 rack travel mm : 4.00
 Rated speed rpm : 1255

LOW IDLE

control lever
 position degree : 67.0
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 325
 rack travel mm : 7.10

Testing:

Rated speed rpm : 325
 rack travel mm : 7.60
 Tolerance mm : ± 0.10

rack travel mm : 2.00
 Rated speed rpm : 460
 Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1150
 rack travel mm : 12.15
 Tolerance mm : ± 0.05

Rated speed rpm : 500
 rack travel mm : 12.65
 Tolerance mm : ± 0.05

Rated speed rpm : 855

rack travel mm : 12.40
Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 88.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 3.5

BREAKAWAY

Rack travel in mm : 11.10
Rated speed rpm : 1195
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.20
Tolerance mm : ± 0.20
Del. quantity
cm³/1000 strokes : 115.0
Tolerance
cm³/1000 strokes : ± 7.5
Check tolerance
cm³/1000S. : ± 10.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 7.60
Tolerance mm : ± 0.10
Del. quantity
cm³/1000 strokes : 12.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 4.0
Spreed
Tolerance
cm³/1000 strokes : 4.5
Check tolerance
cm³/1000S. : 7.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.10.94
Test oil : ISO 4113
Combination No. : 0401846545
Injection pump
Pump designation : PE6P110A32ORS494-1
EP type number : 0411816168
Governor
Governor design. : RQV250...1200PA1184
Governor no. : 0421814112
Cust. part No. : 11030926 PO?advanced

Customer-spec. information
Customer : VME
Motor : TD71K
Power KW : 148.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1457413010
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 0681343009
Opening pressure
bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1680750089
Outside diameter : 8.0

M28

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 3.05
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 10.50
Tolerance mm : ± 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.50

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 1

BASIC SETTING

Rated speed rpm : 700
Rack travel in mm : 11.80
Tolerance mm : ± 0.05
Del. quantity
cm³/1000 strokes : 117.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 3.0

Spreed
Tolerance
cm³/1000 strokes : 4.0

Check tolerance
cm³/1000S. : 7.5

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 1.12
Tolerance mm : ± 0.25

Rated speed rpm : 1256
guide sleeve
travel mm : 8.57
Tolerance mm : ± 0.25

Rated speed rpm : 905
guide sleeve
travel mm : 5.37
Tolerance mm : ± 0.25

Rated speed rpm : 435
guide sleeve
travel mm : 2.03
Tolerance mm : ± 0.25

Rated speed rpm : 485
guide sleeve
travel mm : 2.43
Tolerance mm : ± 0.25

Rated speed rpm : 590
guide sleeve
travel mm : 3.11
Tolerance mm : ± 0.25

Rated speed rpm : 1490
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1330

Rack travel in mm : 10.00
Tolerance mm : ± 1.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700
Aneroid pressure
hPa : 1500
Del. quantity
cm³/1000 strokes : 117.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 3.0
Spreed
Tolerance
cm³/1000 strokes : 4.0
Check tolerance
cm³/1000S. : 7.5

RATED SPEED

control lever
position degree : 48.0
tolerance degree : ± 4.0

control lever
position degree : 107.0
tolerance degree : ± 4.0

rack travel mm : 10.80
Rated speed rpm : 1245
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1335
Tolerance 1/min : ± 15

rack travel mm : 0.50
Tolerance mm : ± 0.50
Rated speed rpm : 1450

LOW IDLE

control lever
position degree : 72.0
tolerance degree : ± 4.0

control lever
position degree : 13.0

tolerance degree : \pm 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.00
Tolerance mm : \pm 0.20

Rated speed rpm : 200

CRT mm min. : $>$ 6.50

Rated speed rpm : 360

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1500
rack travel mm : 11.80
Tolerance mm : \pm 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.70
Tolerance mm : \pm 0.20

Rated speed rpm : 500

Pressure hPa : 500
rack travel mm : 1.80
Tolerance mm : \pm 0.10

Pressure hPa : 210
rack travel mm : 0.25
Tolerance mm : \pm 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : -
Rated speed rpm : 700
Del. quantity
cm³/1000 strokes : 80.0
Tolerance
cm³/1000 strokes : \pm 1.0
Check tolerance
cm³/1000S. : \pm 4.0

BREAKAWAY

NO2

Rack travel in mm : 10.80
Rated speed rpm : 1245
Tolerance 1/min : \pm 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : \pm 0.50
Del. quantity
cm³/1000 strokes : 175.0
Tolerance
cm³/1000 strokes : \pm 15.0
Check tolerance
cm³/1000S. : \pm 19.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 06.10.94
Test oil : ISO 4113

Combination No. : 0402035032

Injection pump
Pump designation : PES5P120A720/3LS528
: -1
EP type number : 0412025023

Governor
Governor design. : RQV325...1000PA876
: -10
Governor no. : 0421813900

Cust. part No. : 51.11103-7348

Customer-spec. information
Customer : MAN
Motor : D2865LF/LU05
Power KW : 198.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5

Overflow quantity
min. l/h : 130
Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

N03

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 13.50
Tolerance mm : ± 0.50

Firing order : 1- 3- 5- 4- 2

Phasing : 0-72-144-216-288
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 5

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.65
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 221.0

Tolerance
cm³/1000 strokes : + 1.0

Check tolerance
cm³/1000S. : + 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 325

Rack travel in mm : 4.50
Tolerance mm : + 0.20

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325
guide sleeve
travel mm : 0.96
Tolerance mm : + 0.25

Rated speed rpm : 1057
guide sleeve
travel mm : 9.86
Tolerance mm : + 0.25

Rated speed rpm : 809
guide sleeve
travel mm : 6.82
Tolerance mm : + 0.25

Rated speed rpm : 380
guide sleeve
travel mm : 1.82
Tolerance mm : + 0.25

Rated speed rpm : 430
guide sleeve
travel mm : 2.54
Tolerance mm : + 0.25

Rated speed rpm : 540

guide sleeve
travel mm : 3.64
Tolerance mm : + 0.25

Rated speed rpm : 1290
guide sleeve
travel mm : 13.50
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1080

Rack travel in mm : 16.50
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 221.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : + 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 300.0
tolerance degree : + 4.0

rack travel mm : 10.60
Rated speed rpm : 1045
Tolerance 1/min : + 5

rack travel mm : 4.00
Rated speed rpm : 1115
Tolerance 1/min : + 15

rack travel mm : 0.50
Tolerance mm : + 0.50
Rated speed rpm : 1250

LOW IDLE

control lever
position degree : 256.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325
rack travel mm : 4.50
Tolerance mm : ± 0.10

Rated speed rpm : 100
CRT mm min. : > 6.10

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 750
rack travel mm : 11.65
Tolerance mm : ± 0.10

Rated speed rpm : 550
rack travel mm : 11.65
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 11.65
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : 9.10
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 390
rack travel mm : 11.05
Tolerance mm : ± 0.15

Pressure hPa : 150
rack travel mm : 9.45
Tolerance mm : ± 0.05

START CUT-OUT

NOS

Rated speed rpm : < 245
Check
speed 1/min : < 265

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 750
Del. quantity
cm³/1000 strokes : 220.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : 1000
Rated speed rpm : 550
Del. quantity
cm³/1000 strokes : 213.0
Tolerance
cm³/1000 strokes : ± 4.0
Check tolerance
cm³/1000S. : ± 7.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 135.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.60
Rated speed rpm : 1045
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Del. quantity
cm³/1000 strokes : 210.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 325
rack travel mm : 4.50
Tolerance mm : \pm 0.20



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.94
Test oil : ISO 4113

Combination No. : 0402046789

Injection pump
Pump designation : PES6P120A32ORS3139
EP type number : 0412026718

Governor
Governor design. : RQV275...1000PA728
 : -3
Governor no. : 0421813657

Cust. part No. : CCEP 5070 -116

Customer-spec. information
Customer : RVI
Motor : MIDR 062045 H
Power KW : 227.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 2417413071

Inlet press. bar : 2.5

Test nozzle holder
assembly : 1688901019

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

NO7

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 3.55
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-
 : 4

Phasing : 0-60-120-180-240
 : -300
Tolerance : ± 0.30
Check
tolerance °Nw : ± 0.50

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.15
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 195.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : +- 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1170

Rack travel in mm : 16.50
Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000
Aneroid pressure
hPa : 1000
Del. quantity
cm³/1000 strokes : 195.0
Tolerance
cm³/1000 strokes : +- 1.0
Check tolerance
cm³/1000S. : +- 4.0
Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 119.0
tolerance degree : +- 4.0

rack travel mm : -1.00
Rated speed rpm : 1075
Tolerance 1/min : +- 5

rack travel mm : -7.15
Rated speed rpm : 1190
Tolerance 1/min : +- 15

rack travel mm : -10.65
Tolerance mm : +- 0.50
Rated speed rpm : 1300

LOW IDLE

control lever
position degree : 67.0
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 275
rack travel mm : -5.45
Tolerance mm : +- 0.15

Rated speed rpm : 200

CRT mm max. : < -3.80

Rated speed rpm : 370

TORQUE CONTROL

Rated speed rpm : 600

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 500
rack travel mm : -2.20
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 160
rack travel mm : -1.60
Tolerance mm : +- 0.10

Pressure hPa : 280
rack travel mm : -0.75
Tolerance mm : +- 0.05

START CUT-OUT

Rated speed rpm : < 195

Check
speed 1/min : < 215

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 600
Del. quantity
cm³/1000 strokes : 195.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 103.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1075
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 160.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 10.10.94
Test oil : ISO 4113
Combination No. : 0402646772
Injection pump
Pump designation : PE6P120A320LS7846
EP type number : 0412626865
Governor
Governor design. : RQ300/1050PA1030-21
Governor no. : 0421801758

Cust. part No. : 0250747102

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 230.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Tolerance l/h : ± 10.0

Test nozzle holde
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

Test lines : 1680750075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30

Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm	:	13.00
Tolerance mm	:	± 0.05
<hr/>		
Del. quantity		
cm ³ /1000 strokes	:	231.0
<hr/>		
Tolerance		
cm ³ /1000 strokes	:	± 1.0
<hr/>		
Check tolerance		
cm ³ /1000S.	:	± 4.0
<hr/>		
Spreed		
Tolerance		
cm ³ /1000 strokes	:	5.0
<hr/>		
Check tolerance		
cm ³ /1000S.	:	9.0
<hr/>		
2nd speed rpm	:	300
<hr/>		
Rack travel in mm	:	5.20
Tolerance mm	:	± 0.30
Del. quantity		
cm ³ /1000 strokes	:	13.0
Tolerance		
cm ³ /1000 strokes	:	± 3.0
Check tolerance		
cm ³ /1000S.	:	± 6.0
Spreed		
Tolerance		
cm ³ /1000 strokes	:	6.0
Check tolerance		
cm ³ /1000S.	:	10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	:	300
guide sleeve		
travel mm	:	1.88
Tolerance mm	:	± 0.10
<hr/>		
Rated speed rpm	:	1104
guide sleeve		
travel mm	:	6.37
Tolerance mm	:	± 0.10
<hr/>		
Rated speed rpm	:	1050
guide sleeve		
travel mm	:	6.00
Tolerance mm	:	± 0.10
<hr/>		
Rated speed rpm	:	401

guide sleeve		
travel mm	:	4.23
Tolerance mm	:	± 0.10
<hr/>		
Rated speed rpm	:	510
guide sleeve		
travel mm	:	6.00
Tolerance mm	:	± 0.10
<hr/>		
Rated speed rpm	:	1280
guide sleeve		
travel mm	:	11.50
Tolerance mm	:	± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	:	600
<hr/>		
Rack travel in mm	:	20.00
Tolerance mm	:	± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	700
Aneroid pressure		
hPa	:	1000
Del. quantity		
cm ³ /1000 strokes	:	231.0
Tolerance		
cm ³ /1000 strokes	:	± 1.0
Check tolerance		
cm ³ /1000S.	:	± 4.0
Spreed		
Tolerance		
cm ³ /1000 strokes	:	5.0
Check tolerance		
cm ³ /1000S.	:	9.0

RATED SPEED

control lever		
position degree	:	97.0
tolerance degree	:	± 4.0
<hr/>		
rack travel mm	:	12.00
Rated speed rpm	:	1098
Tolerance 1/min	:	± 8
<hr/>		
rack travel mm	:	4.00
Rated speed rpm	:	1195
Tolerance 1/min	:	± 15
<hr/>		
rack travel mm	:	0.75
Tolerance mm	:	± 0.75
Rated speed rpm	:	1300

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : ± 20

Rated speed rpm : 200
CRT mm min. : > 7.50

TORQUE CONTROL

Rated speed rpm : 700
rack travel mm : 13.00
Tolerance mm : ± 0.05

Rated speed rpm : 1050
rack travel mm : 13.00
Tolerance mm : ± 0.10

**ANEROID/ALTITUDE
COMPENSATOR TEST****SETTING**

Rated speed rpm : 400
Pressure hPa : 1000
rack travel mm : 13.00
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.40
Tolerance mm : ± 0.15

Rated speed rpm : 400
Pressure hPa : 400
rack travel mm : 11.80
Tolerance mm : ± 0.10

Pressure hPa : 600

rack travel mm : 12.80
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1000
Rated speed rpm : 1050
Del. quantity
cm³/1000 strokes : 228.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 400
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 172.0
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 138.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 12.00
Rated speed rpm : 1098
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 200.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.20
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 13.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.94
Test oil : ISO 4113

Combination No. : 0402646799

Injection pump
Pump designation : PE6P120A320LS7852
EP type number : 0412626871

Governor
Governor design. : RQ300/950PA1031-5
Governor no. : 0421801657

Cust. part No. : 0230744402

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : ± 0.1

Overflow quantity
min. l/h : 110
Tolerance l/h : ± 10.0

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : ± 1.5

Lube oil : 1409918004

N14

Test lines : 1680750075
Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0

Prestroke mm : 5.25
Tolerance mm : ± 0.05
test only : ± 0.10

Rack travel in mm : 20.50
Tolerance mm : ± 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm	:	14.40
Tolerance mm	:	+ 0.05
<hr/>		
Del. quantity cm ³ /1000 strokes	:	248.0
<hr/>		
Tolerance cm ³ /1000 strokes	:	+ 1.0
<hr/>		
Check tolerance cm ³ /1000S.	:	+ 4.0
<hr/>		
Spreed Tolerance cm ³ /1000 strokes	:	5.0
<hr/>		
Check tolerance cm ³ /1000S.	:	9.0
2nd speed rpm	:	300
<hr/>		
Rack travel in mm	:	5.90
Tolerance mm	:	+ 0.30
Del. quantity cm ³ /1000 strokes	:	19.0
Tolerance cm ³ /1000 strokes	:	+ 3.0
Check tolerance cm ³ /1000S.	:	+ 6.0
Spreed Tolerance cm ³ /1000 strokes	:	6.0
Check tolerance cm ³ /1000S.	:	10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm guide sleeve travel mm	:	300
Tolerance mm	:	+ 0.10
<hr/>		
Rated speed rpm guide sleeve travel mm	:	1009
Tolerance mm	:	+ 0.10
<hr/>		
Rated speed rpm guide sleeve travel mm	:	950
Tolerance mm	:	+ 0.10
<hr/>		
Rated speed rpm	:	412

guide sleeve travel mm	:	4.72
Tolerance mm	:	+ 0.10
<hr/>		
Rated speed rpm guide sleeve travel mm	:	500
Tolerance mm	:	+ 0.10
<hr/>		
Rated speed rpm guide sleeve travel mm	:	1170
Tolerance mm	:	+ 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	:	600
<hr/>		
Rack travel in mm	:	20.00
Tolerance mm	:	+ 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	550
Aneroid pressure hPa	:	1100
Del. quantity cm ³ /1000 strokes	:	248.0
Tolerance cm ³ /1000 strokes	:	+ 1.0
Check tolerance cm ³ /1000S.	:	+ 4.0
Spreed Tolerance cm ³ /1000 strokes	:	5.0
Check tolerance cm ³ /1000S.	:	9.0

RATED SPEED

control lever position degree	:	96.0
tolerance degree	:	+ 4.0
<hr/>		
rack travel mm	:	13.40
Rated speed rpm	:	998
Tolerance 1/min	:	+ 8
<hr/>		
rack travel mm	:	4.00
Rated speed rpm	:	1085
Tolerance 1/min	:	+ 15
<hr/>		
rack travel mm	:	0.75
Tolerance mm	:	+ 0.75
Rated speed rpm	:	1300

LOW IDLE

control lever
position degree : 71.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 3.50
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 340
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 5.70

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.40
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 14.40
Tolerance mm : ± 0.05

Rated speed rpm : 400
rack travel mm : 13.60
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 14.40
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.35
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 550

rack travel mm : 13.60
Tolerance mm : ± 0.10

Pressure hPa : 250
rack travel mm : 11.45
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1100
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 208.5
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 998
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.94
Test oil : ISO 4113
Combination No. : 0402646994
Injection pump
Pump designation : PE6P120A320LS7852
EP type number : 0412626871
Governor
Governor design. : RQ300/950PA1032-13
Governor no. : 0421801747
Cust. part No. : 0230744202

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power Kw : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1417413025
Inlet press. bar : 1.5
Tolerance bar : ± 0.1
Test nozzle holder
assembly : 1688901105
Opening pressure
bar : 208.5
Tolerance bar : ± 1.5
Lube oil : 1409918004
Test lines : 1680750075

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : ± 1.0
Prestroke mm : 5.25
Tolerance mm : ± 0.05
test only : ± 0.10
Rack travel in mm : 20.50
Tolerance mm : ± 0.50
Firing order : 6- 3- 5- 2- 4-
: 1-
Phasing : 0-60-120-180-240
: -300-360
Tolerance : ± 0.30
Check
tolerance °NW : ± 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550
Rack travel in mm : 14.40
Tolerance mm : ± 0.05

Del. quantity
cm³/1000 strokes : 248.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.90
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spread
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300
guide sleeve
travel mm : 2.16
Tolerance mm : ± 0.10

Rated speed rpm : 1009
guide sleeve
travel mm : 6.52
Tolerance mm : ± 0.10

Rated speed rpm : 950
guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 401
guide sleeve
travel mm : 4.53
Tolerance mm : ± 0.10

Rated speed rpm : 500

guide sleeve
travel mm : 6.00
Tolerance mm : ± 0.10

Rated speed rpm : 1170
guide sleeve
travel mm : 11.50
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1100

Del. quantity
cm³/1000 strokes : 248.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 97.0
tolerance degree : ± 4.0

rack travel mm : 13.40
Rated speed rpm : 998
Tolerance 1/min : ± 8

rack travel mm : 4.00
Rated speed rpm : 1080
Tolerance 1/min : ± 15

rack travel mm : 0.75
Tolerance mm : ± 0.75
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 73.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 390
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 8.30

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.40
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 14.40
Tolerance mm : ± 0.05

Rated speed rpm : 400
rack travel mm : 13.60
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 14.40
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.35
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 550
rack travel mm : 13.60
Tolerance mm : ± 0.10

Pressure hPa : 250

N20

rack travel mm : 11.45
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 220
Check
speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1100
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 208.5
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spread
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 998
Tolerance 1/min : ± 8

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : ± 15.0
Check tolerance
cm³/1000S. : ± 19.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 07.10.94
Test oil : ISO 4113

Combination No. : 0402646997

Injection pump
Pump designation : PE6P120A320LS7852
EP type number : 0412626871

Governor
Governor design. : RQV300...950PA1033
: -5
Governor no. : 0421814008

Cust. part No. : 0230744302

Customer-spec. information
Customer : MB-NFZ
Motor : OM441 LA
Power KW : 250.0

TEST BENCH REQUIREMENTS

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1417413025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holder
assembly : 1688901105

Opening pressure
bar : 208.5
Tolerance bar : + 1.5

Lube oil : 1409918004

Test Lines : 1680750075

N22

Outside diameter : 8.0
x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50
Tolerance mm : + 0.50

Firing order : 6- 3- 5- 2- 4-
: 1-

Phasing : 0-60-120-180-240
: -300-360
Tolerance : + 0.30
Check
tolerance °NW : + 0.75

BEGINNING OF DELIVERY DIFFERENCE

Time to cyl. no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.40
Tolerance mm : + 0.05

Del. quantity
cm³/1000 strokes : 248.0

Tolerance
cm³/1000 strokes : ± 1.0

Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0

Check tolerance
cm³/1000S. : 9.0

2nd speed rpm : 300

Rack travel in mm : 5.90
Tolerance mm : ± 0.30

Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0

Spreed
Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

(B) SETTING OF INJECTION PUMP
WITH GOVERNOR

GUIDE SLEEVE POSITION

control lever
position degree : - 1
Rated speed rpm : 1075

Rack travel in mm : 13.00
Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550
Aneroid pressure
hPa : 1100

Del. quantity
cm³/1000 strokes : 248.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0

Spreed
Tolerance
cm³/1000 strokes : 5.0
Check tolerance
cm³/1000S. : 9.0

RATED SPEED

control lever
position degree : 120.0
tolerance degree : ± 4.0

rack travel mm : 13.40
Rated speed rpm : 995
Tolerance 1/min : ± 5

rack travel mm : 4.00
Rated speed rpm : 1085
Tolerance 1/min : ± 15

rack travel mm : 0.70
Tolerance mm : ± 0.70
Rated speed rpm : 1200

LOW IDLE

control lever
position degree : 84.0
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : ± 0.10

rack travel mm : 2.00
Rated speed rpm : 440
Tolerance 1/min : ± 30

Rated speed rpm : 200

CRT mm min. : > 8.10

Rated speed rpm : 325

TORQUE CONTROL

Rated speed rpm : 550
rack travel mm : 14.40
Tolerance mm : ± 0.05

Rated speed rpm : 950
rack travel mm : 14.40
Tolerance mm : ± 0.05

Rated speed rpm : 400
rack travel mm : 13.60
Tolerance mm : ± 0.10

ANEROID/ALTITUDE
COMPENSATOR TEST

SETTING

Rated speed rpm : 400
Pressure hPa : 1100
rack travel mm : 14.40
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -
Rated speed rpm : 400
rack travel mm : 10.35
Tolerance mm : ± 0.20

Rated speed rpm : 400

Pressure hPa : 550
rack travel mm : 13.60
Tolerance mm : ± 0.10

Pressure hPa : 250
rack travel mm : 11.45
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : < 240
Check
speed 1/min : < 260

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa : 1100
Rated speed rpm : 950
Del. quantity
cm³/1000 strokes : 240.0
Tolerance
cm³/1000 strokes : ± 2.0
Check tolerance
cm³/1000S. : ± 5.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

Aneroid pressure
hPa : 550
Rated speed rpm : 400
Del. quantity
cm³/1000 strokes : 208.5
Tolerance
cm³/1000 strokes : ± 1.5
Check tolerance
cm³/1000S. : ± 4.5

Aneroid pressure
hPa : -
Rated speed rpm : 500
Del. quantity
cm³/1000 strokes : 136.0
Tolerance
cm³/1000 strokes : ± 1.0
Check tolerance
cm³/1000S. : ± 4.0
Speed
Tolerance
cm³/1000 strokes : 8.0
Check tolerance
cm³/1000S. : 12.0

BREAKAWAY

Rack travel in mm : 13.40
Rated speed rpm : 995
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm³/1000 strokes : 265.0
Tolerance
cm³/1000 strokes : ± 10.0
Check tolerance
cm³/1000S. : ± 14.0

LOW IDLE

Rated speed rpm : 300
rack travel mm : 5.90
Tolerance mm : ± 0.30
Del. quantity
cm³/1000 strokes : 19.0
Tolerance
cm³/1000 strokes : ± 3.0
Check tolerance
cm³/1000S. : ± 6.0
Speed

Tolerance
cm³/1000 strokes : 6.0
Check tolerance
cm³/1000S. : 10.0

